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James Dike

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T H E
CARPENTERS Complete INSTRUCTOR,
I N
Several Hundred D E S I G N S,
CONSISTING OF
DOMES, TRUSSED ROOFS, and various CUPOLAS:

W I T H
The METHODS of securing them on the ROOFS,
F O R

CHURCHES, || HOUSES, and other
CHAPELS, || BUILDINGS.

S H E W I N G
The most approved Manner of Lighting STAIR - CASES,
With various Sorts of L A N T H O R N S,
In a New and elegant Taste,

E X P L A I N I N G
The Manner of Piecing BEAMS, or PLATING, or any Sort of BANDAGE,
F O R

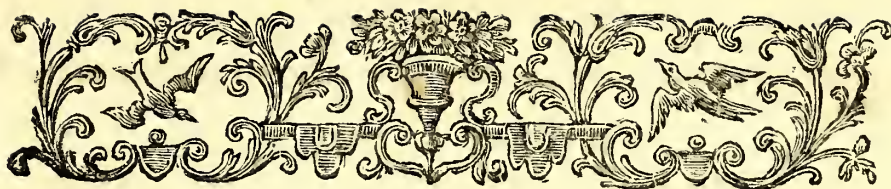
TIMBER SPIRES for CHURCHES, &c. TRUSS PARTITIONS, FRAMING of FLOORING, TRUSSING of BEAMS,		ANGLE BRACKETS, CORNICES, COVING, FORM of GROINS, HIPS, &c.
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To which is annexed, a great Variety of

T I M B E R B R I D G E S,
Of various D I M E N S I O N S.

By A B R A H A M S W A N, Architect.

L O N D O N :
Printed for R O B E R T S A Y E R, at No. 53, in F L E E T - S T R E E T.
M D C C L X V I I I.



A N

EXPLANATION of the PLATES.

PLATE I.



SECTION of the Dome of *St. Paul's Church*, which is designed only to shew the Carpentry Work by which it is supported.

PLATE II.

Two different Sections of Roofs, with the Manner of lighting the Staircases: The Lower shews how to secure a Half Story.

PLATE III.

Two other Sections of Roofs, with the Manner of a Square Lantern and Coving to crown the Staircase.

PLATE IV.

Two other Sections of Roofs. The Upper has no Garrets: The Staircase is lighted by a circular Lantern. In the Lower is shewn, on the Left-hand, how to light the Garrets from the Inside of the Roof, without any Windows appearing on the Outside: A Method which I have often us'd with good Success.

PLATE V.

A Section of a Roof, and the End of a large coved Room.

PLATE VI.

A Section of a Dome at Lord *Westmoreland's* House in Kent. The *Flues* of the Chimnies go up betwixt the Timbers.

PLATE

P L A T E VII.

A Section of the same Dome the other Way ; under it is a Plan of the Form of the Rafters.

P L A T E VIII.

Four different Manners of forming Domes. To the Left-hand of the Lower is shew'd how to shape the *Purlin*.

P L A T E IX.

A Section of the Roof of a Church.

P L A T E X.

Another Section of the Roof of a Church. The Lead that covers this lies in *Drips*.

P L A T E XI.

Another Section of the Roof of a Church.

P L A T E XII.

Two Sections of Roofs ; the Upper is an *Ogee*, the Lower is *curved* ; both are supposed to stand on a circular Plan.

P L A T E XIII.

A Section of a Roof, with a Cupola.

P L A T E XIV.

Another Section of a Roof, with a different Cupola.

P L A T E XV.

A Section of a Roof, with a circular Cupola.

P L A T E XVI.

A Section of a Roof, with an Octagon Cupola.

P L A T E XVII.

The upper Design in this Plate is a Truss Partition, which will admit of a Door in any Part of it, even tho' it should be necessary to take one of the Posts away.

P L A T E XVIII.

Two different Designs for Roofs of large Extent. The upper Design admits of Passages without being interrupted by the Braces.

P L A T E

P L A T E XIX.

Two Designs for Roofs.

P L A T E XX.

Two Designs for Roofs.

P L A T E XXI.

A Design for a Roof, so contrived as to hold up the lower Beam over a Room 36 Feet wide, the Wall being taken away, in order to build a Portico, which breaks out forward.

N. B. This Design has been executed with good Success.

P L A T E XXII.

Five different Designs for Roofs.

P L A T E XXIII.

Three different Designs for Roofs.

P L A T E XXIV.

Two Designs for Roofs of a large Span, with the Tops cut off, that they may not be higher than other Parts of the Roof, when the Span is less.

P L A T E XXV.

A Design for a Roof, with a half Story.

P L A T E XXVI.

A different Design for a Roof, with a half Story.

P L A T E XXVII.

Another Design for a Roof, with a half Story.

P L A T E XXVIII.

Two Designs for common Roofs.

P L A T E XXIX.

Two Designs for Roofs: The Lead that covers the Lower lies in *Drips*.

P L A T E

P L A T E XXX.

Two Designs for Roofs. There is something like the upper one over the great Arches of *St. Paul's Church*; only the Beam on which the principal Rasters stand is not *joggled* into the upper Beam, as in this Design; the Butments there being exceeding strong; neither are there any Iron Straps, as here.

P L A T E XXXI.

Two Designs for Roofs.

P L A T E XXXII.

Two different Roofs. The Walls under the Lower are not directly under the *Vallies*; therefore each Valley is supported by a Brace from the Wall.

P L A T E XXXIII.

Two other Roofs. The Truss Part in the Middle of the Lower gives Opportunity to light the Middle Rooms.

P L A T E XXXIV.

A Truss Partition.

P L A T E XXXV.

Two Designs for framing of Floors; in each of them the Girder is prevented from bending in the Middle; inasmuch as it cannot bend without bending the Joists.

P L A T E XXXVI.

Part of the Plan of a Building. The Roof above it shews, not only how to free the Beam from Oppression, but how to hold it up when there is no Wall underneath.

P L A T E XXXVII.

The Plan of a House, with all the Timbers that belong to the Floor.

P L A T E XXXVIII.

The middle Figure in this Plate is a truss Partition, which carried the Roof in the upper Figure over a *Saloon*. The two lower Figures shew the Manner of trussing a Beam; in the lowest, the Trusses are let into the Beam. The broad Part of the Iron (the Shape of which you see on the Left-hand) is *tinned*, to prevent its rusting, and thereby perishing the Ends of the Trusses.

P L A T E XXXIX.

A Dell Roof upon an Octagon Plan. The Semidiameter of the Plan is divided

divided into equal Parts; from those Divisions let Lines be drawn up to the Bell; let the Line from the Center to the Angle on the Left-hand be divided into the same Number of equal Parts, from whence also, if Lines are drawn up to the Bell, they will give the Shape of the *Hip*, by transferring the Height of each Line above the Cornice on the *right* Side to the *left* Side.

P L A T E XL.

Two Designs for Spires made of Timber.

P L A T E XLI.

Another Timber Spire. To the Left-hand are shewed the naked Timbers, and two Plans.

P L A T E XLII.

A truss'd Timber Bridge.

P L A T E XLIII.

A Bridge of a larger Extent. The two Iron Straps from the top Rail to the short King-post answer the same Purpose as Braces underneath would do.

P L A T E XLIV.

Two Designs for Bridges.

P L A T E XLV.

A Design for a Bridge.

P L A T E XLVI.

A Design for a Bridge.

P L A T E XLVII.

A Design for a Bridge with three Arches.

P L A T E XLVIII.

A Design for a Bridge.

P L A T E XLIX.

A Design for a Bridge.

P L A T E L.

A level Bridge which may be extended to any Length. The Butments against which the King-posts bear are not put on, but left of the solid Beam.

P L A T E L I.

Fig. 1. Is the Plan or Thickness of the Hip; which divide into two equal Parts, then having the Pitch of the Hip, as in *Fig. 2.* set half the Thickness of the Hip from *a* to *b*, this shews what Wood must be taken off to back the Hip. Transfer half the Thickness of the Hip from *d* to *c* in *Fig. 3*, if the Building be *bevel*, as is expressed by the dotted Line *g*. *Fig. 1.* then take the Distance from *f* to *b*, and set it from *d* to *e*, *Fig. 3.* this will give the Back of the Hip.

1, 2, 3, 4, 5. In the uppermost Figure in this Plate represent Pieces to drive into the Holes over them, when the two Sides of the Beam are screwed together. Take care that the Grain of these Pieces be lengthwise, agreeable to the Grain of the Beam.

P L A T E L I I.

Fig. 3. The Leg of the Trammel fixed to the Triangle *a*, will produce such a Curve as is here described, if fixed to the Triangle *b* it will produce the Curve at *Fig. 1.* *Fig. 4.* is an angle Bracket to a Quarter of a Circle: Transfer the Diagonal Line 1, 2, 3, 4, 5, even with the Top of the strait Bracket, then draw the Line 1, 2, 3, 4, 5, 6, and the dotted Lines from these Divisions, in the strait Bracket to the angle Bracket, give each Part its proper Height. All the Heights upon the strait Brackets are equal to those upon the angle Bracket, the Divisions are only wider, as given by the Diagonal Line.

P L A T E L I I I.

Fig. 1. The Form of a Groin; one Half is boarded, the other Half shews the naked Ribs.

Fig. 2. Two common Ways to find the Center, in order to strike a Segment of a Circle. To the Right-hand is shewed how to find the Center by Figures.

Above, in this Plate, two Ways are shewed of forming an angle Bracket.

This Plate further contains some Designs for Block Cornices.

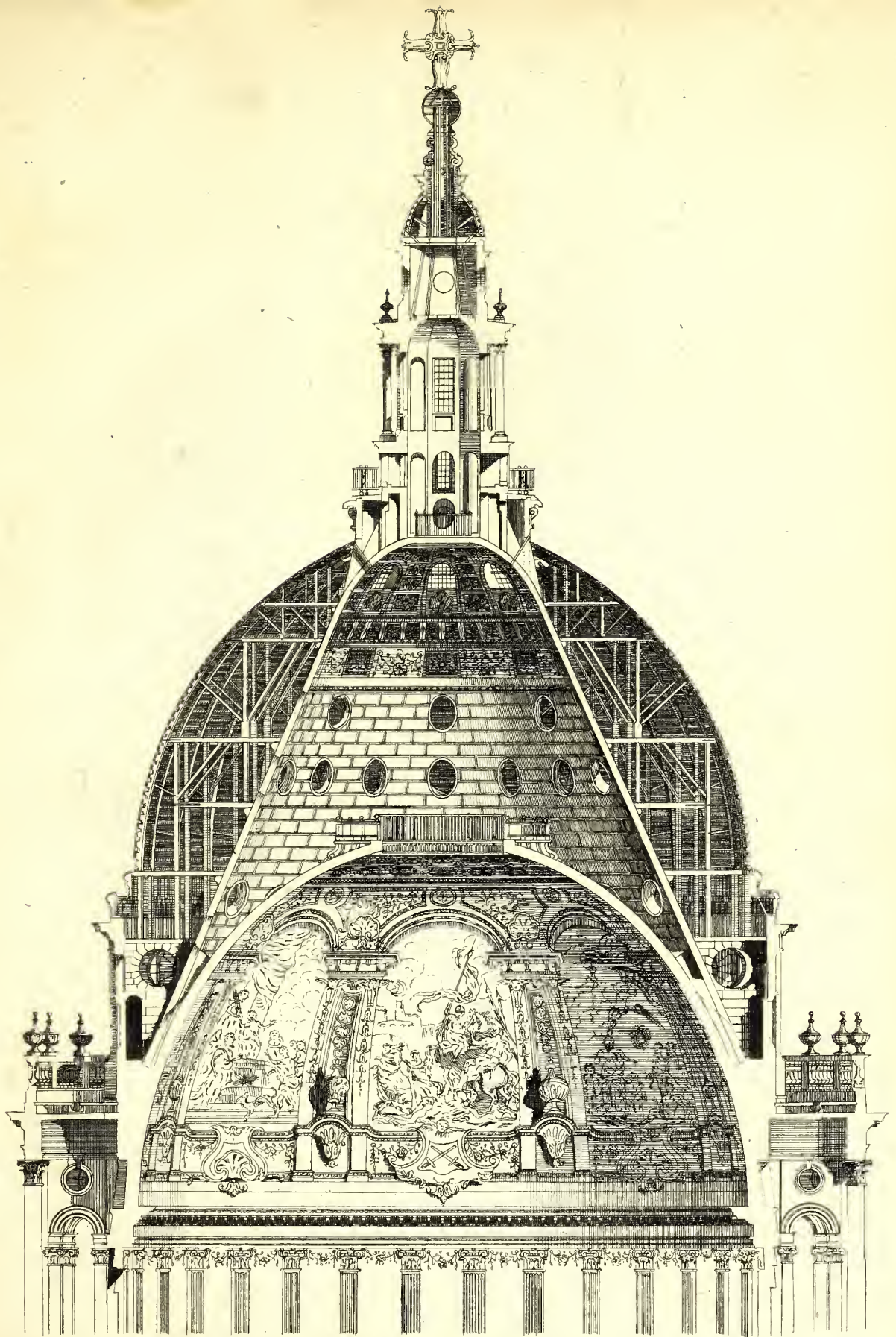
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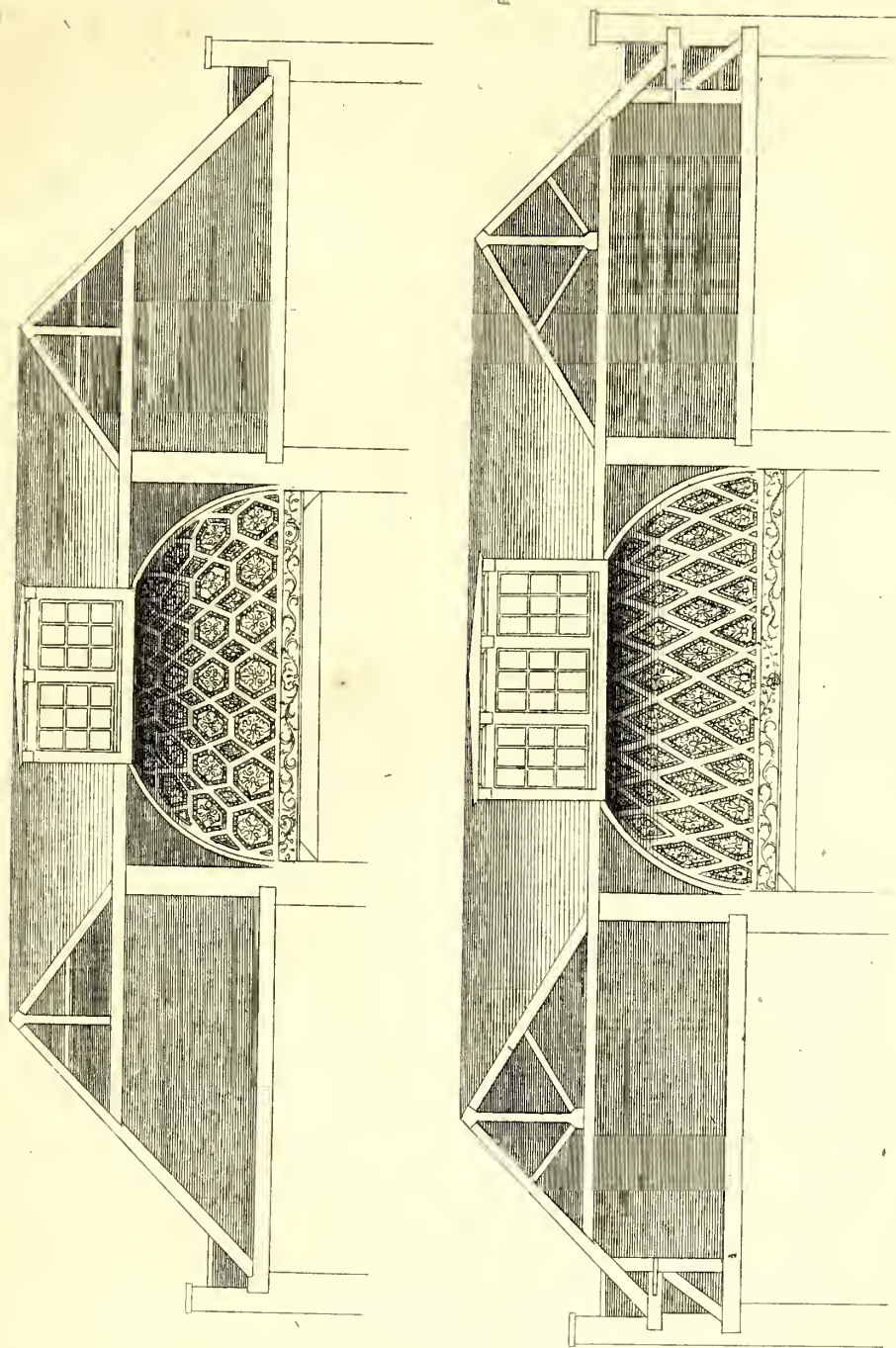
Two Designs for Cornices, which are traced from *Palladio's* wooden Cuts: I have left out the Subdivisions, but have kept all the principal Lines. The Cornices might, I think, be drawn by adding the Figures of each Architrave together, and disposing them as they are figured in the Cornices.

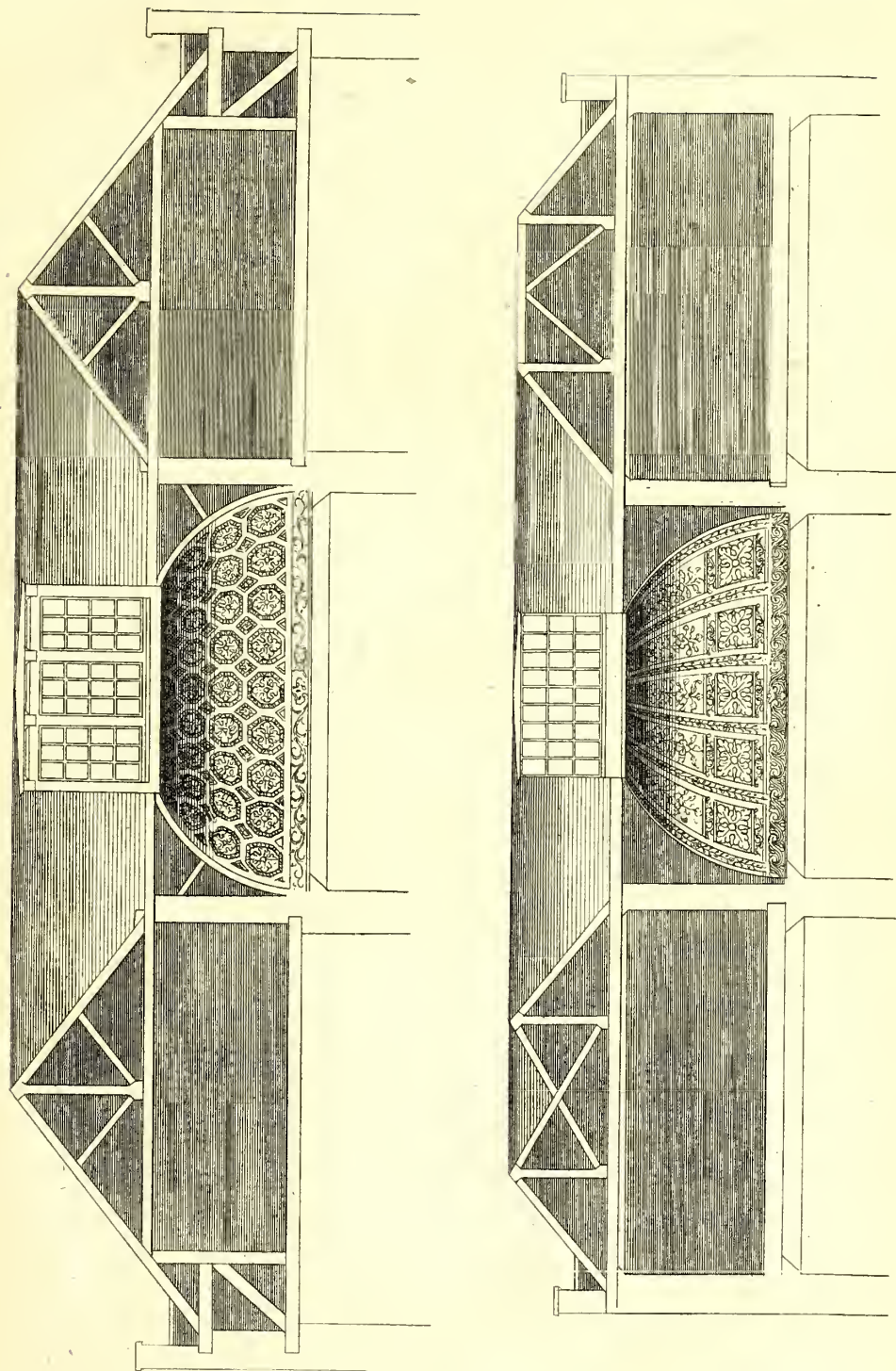
P L A T E L V.

Two other Cornices done in the same Manner as in the last Plate.

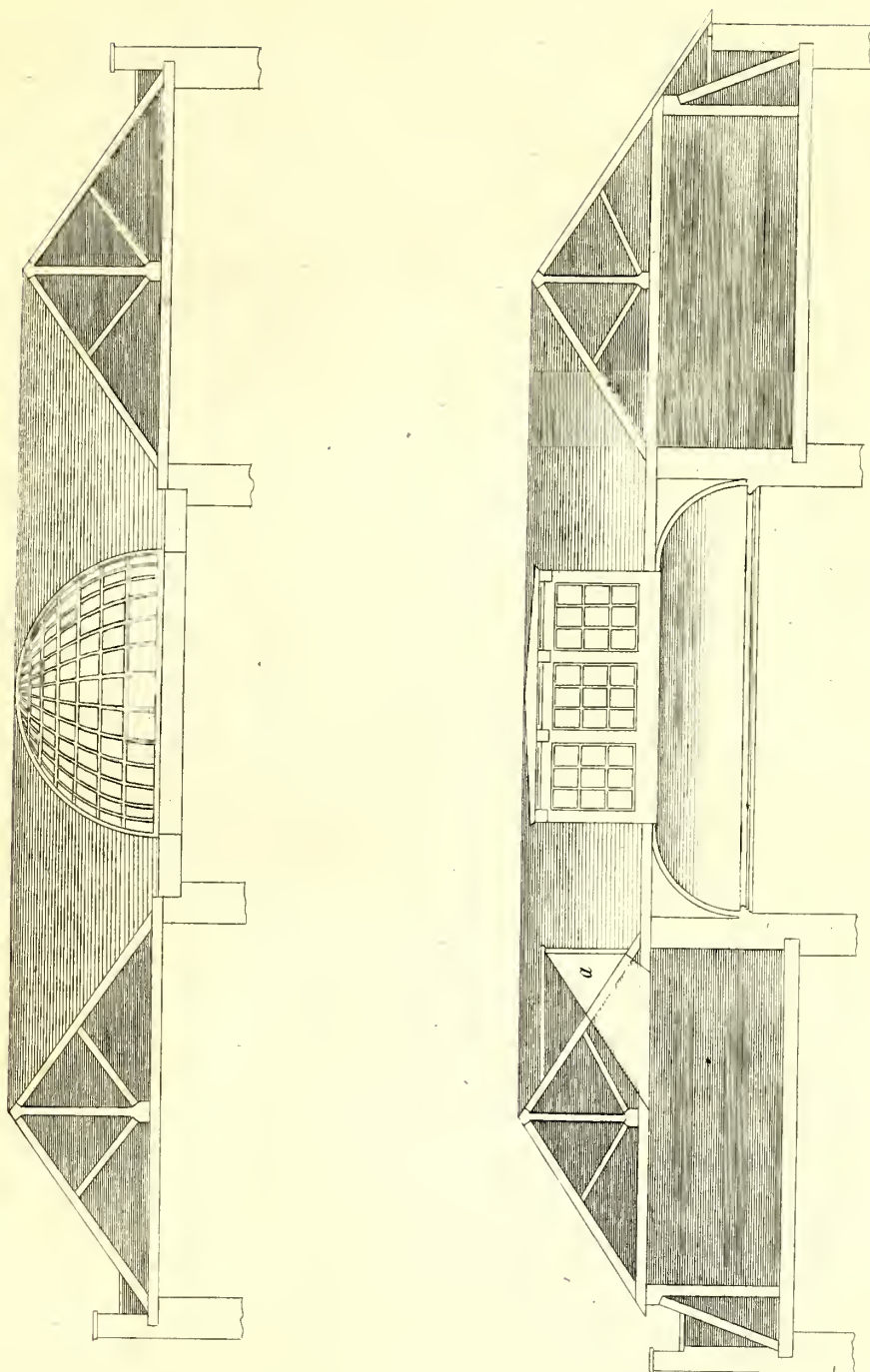
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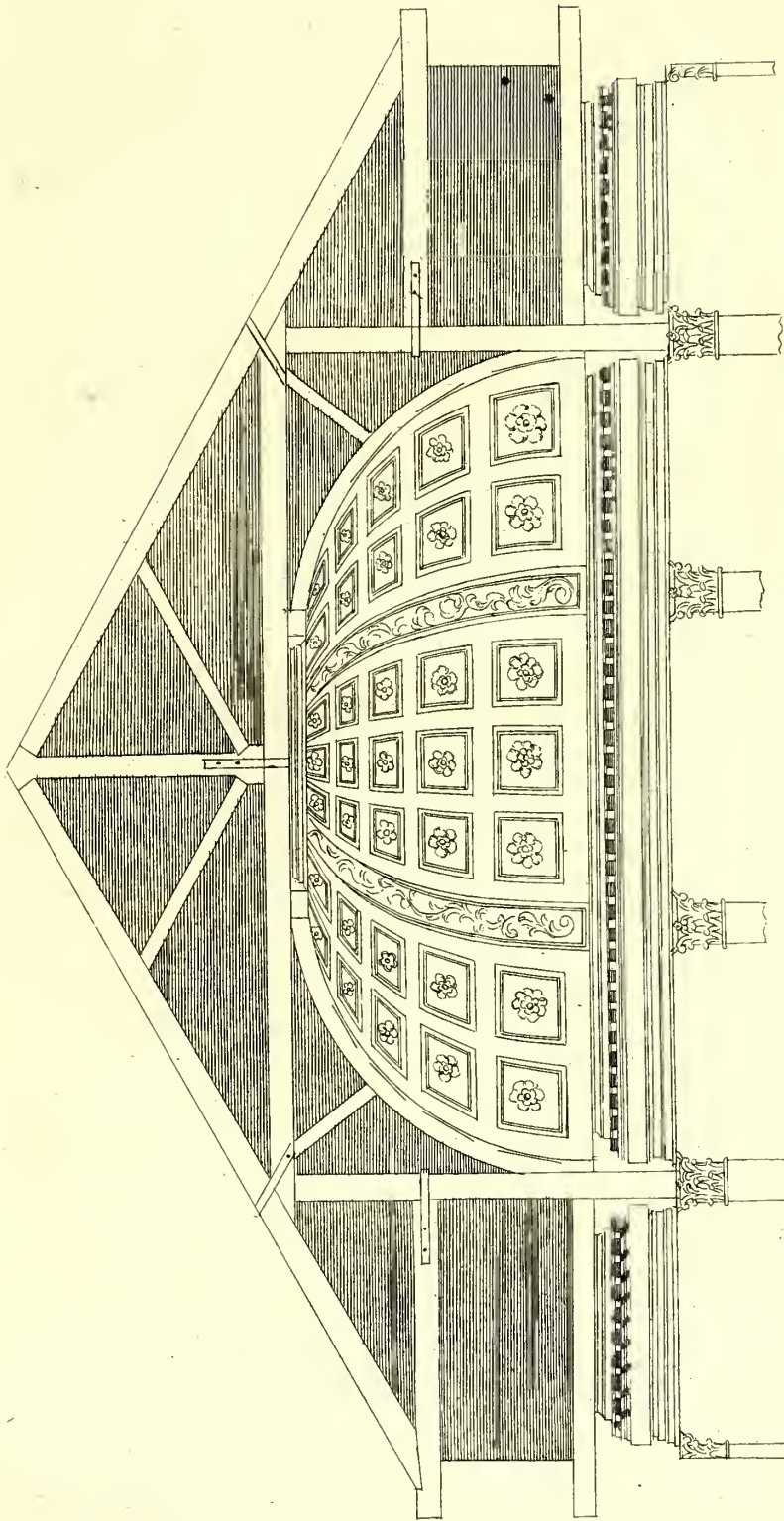


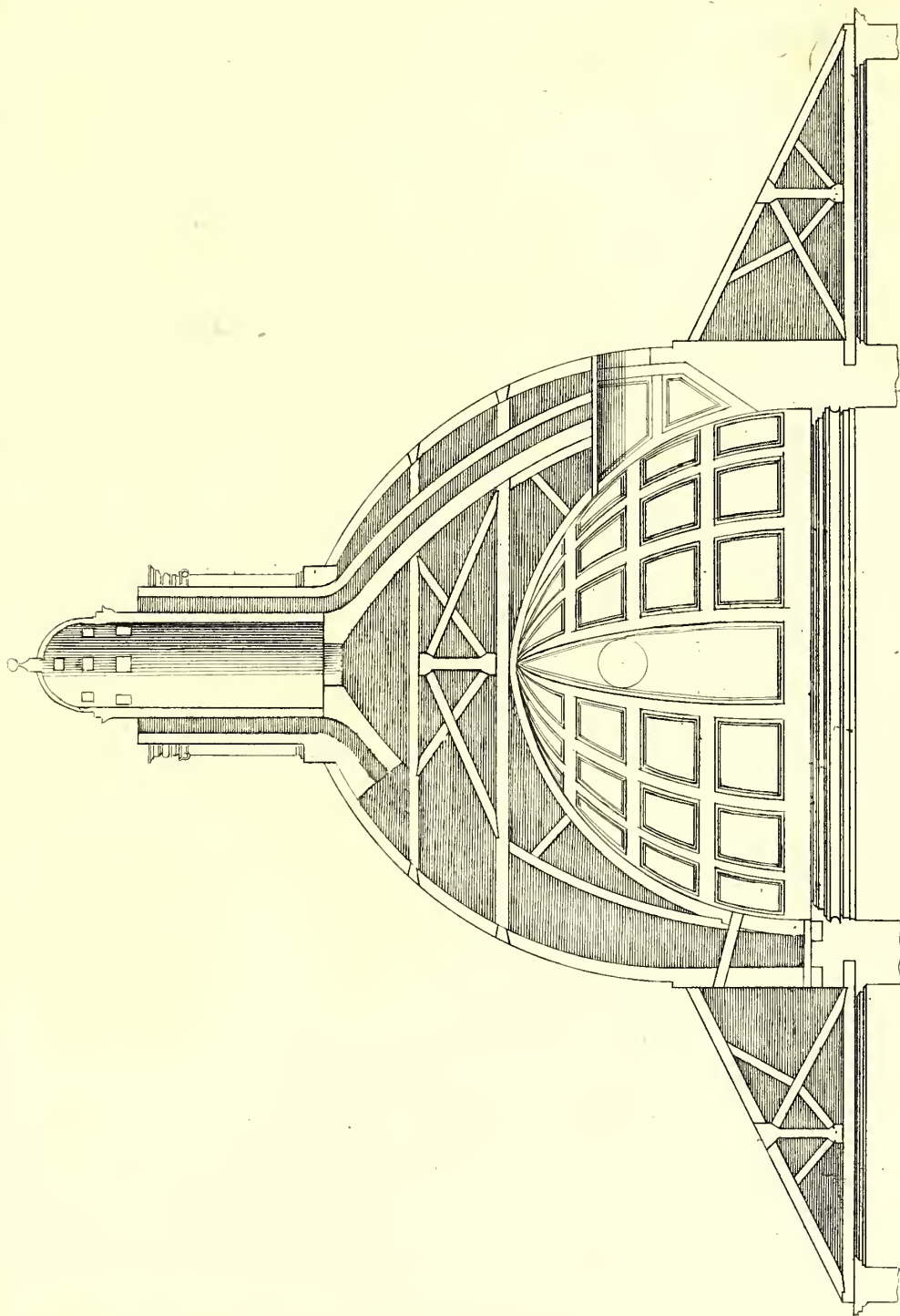




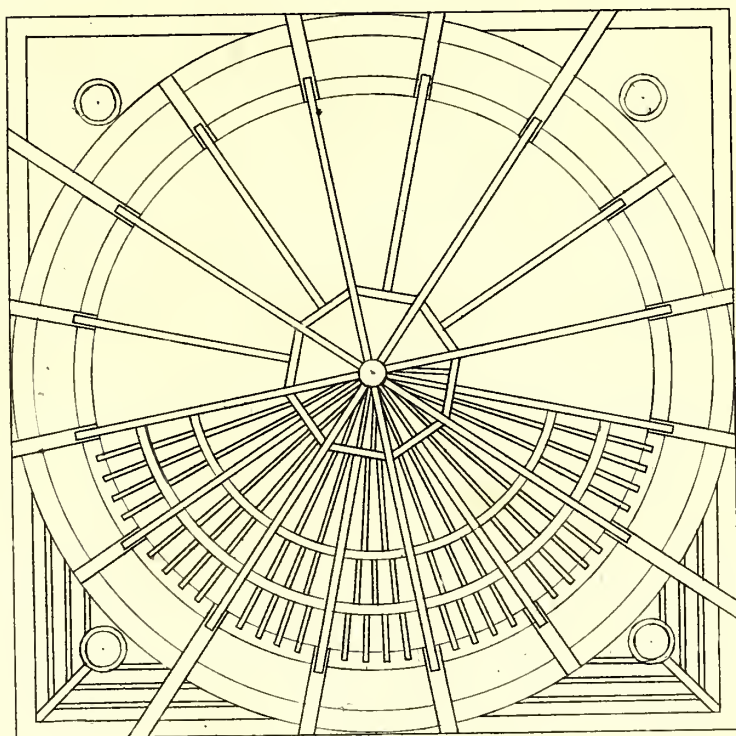
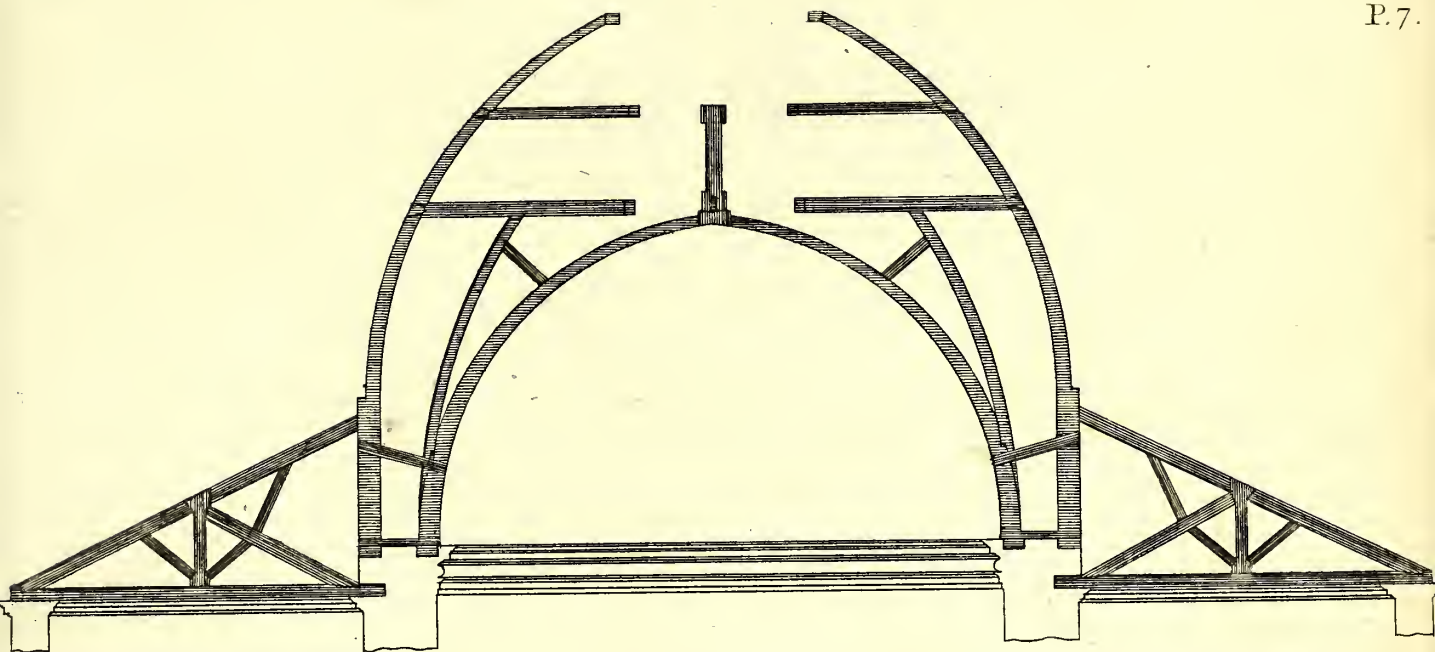
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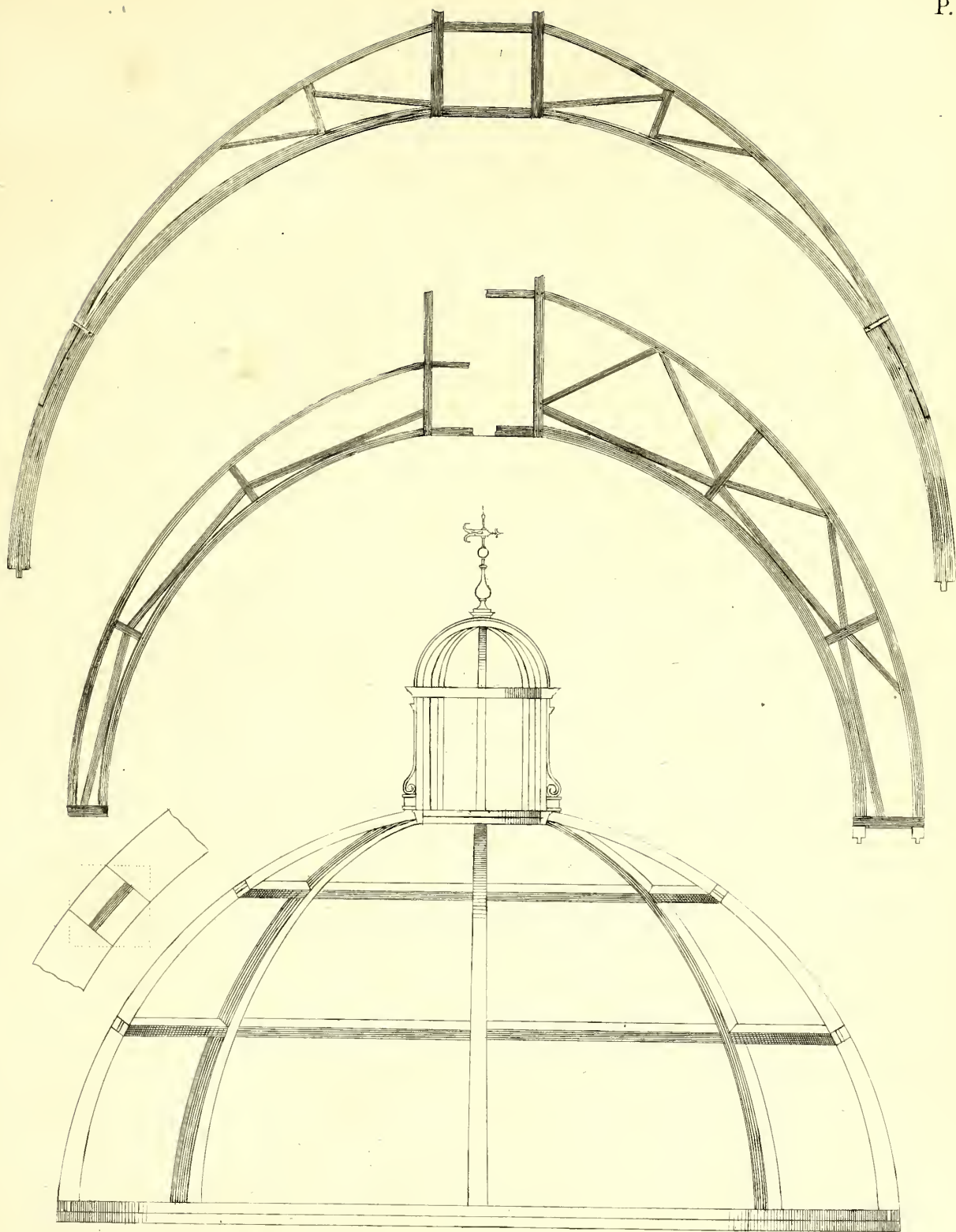




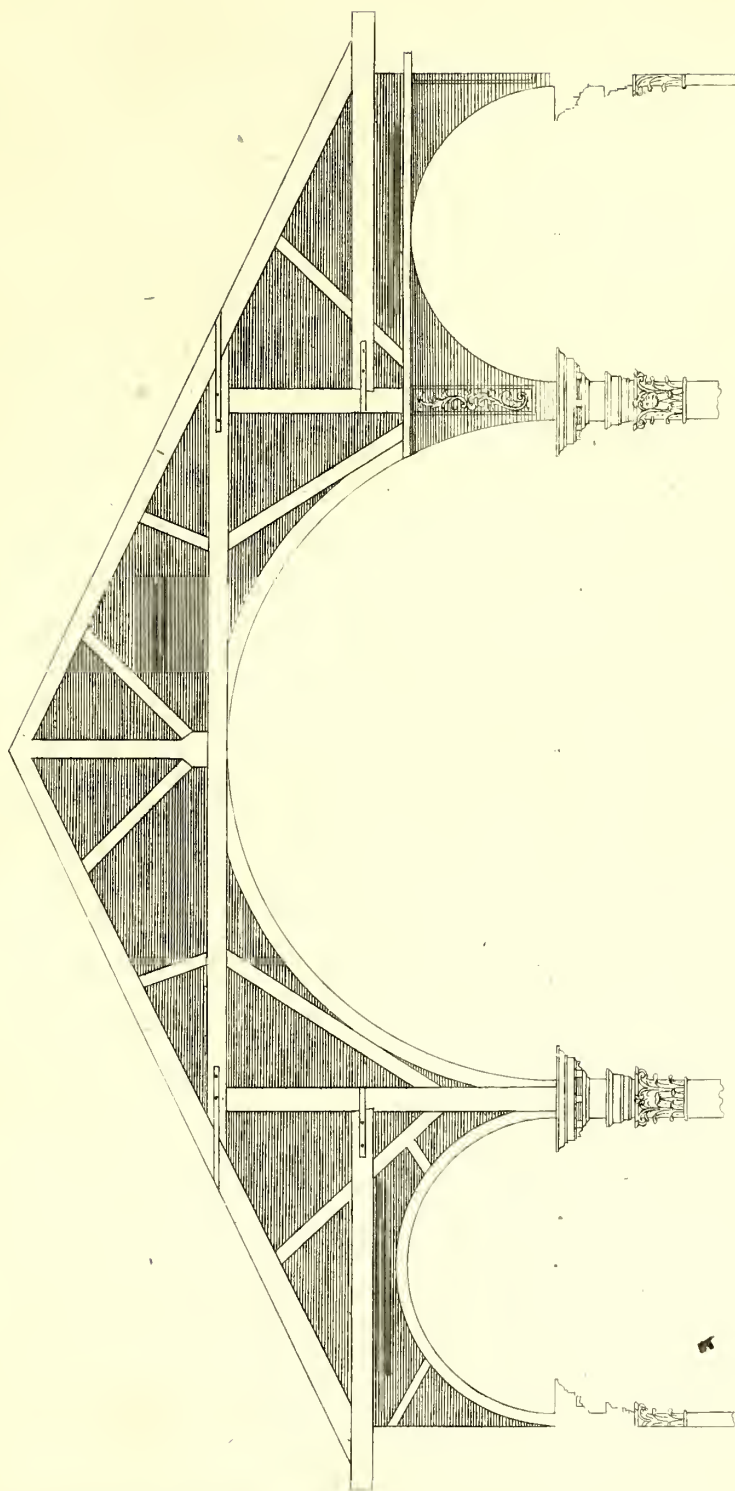
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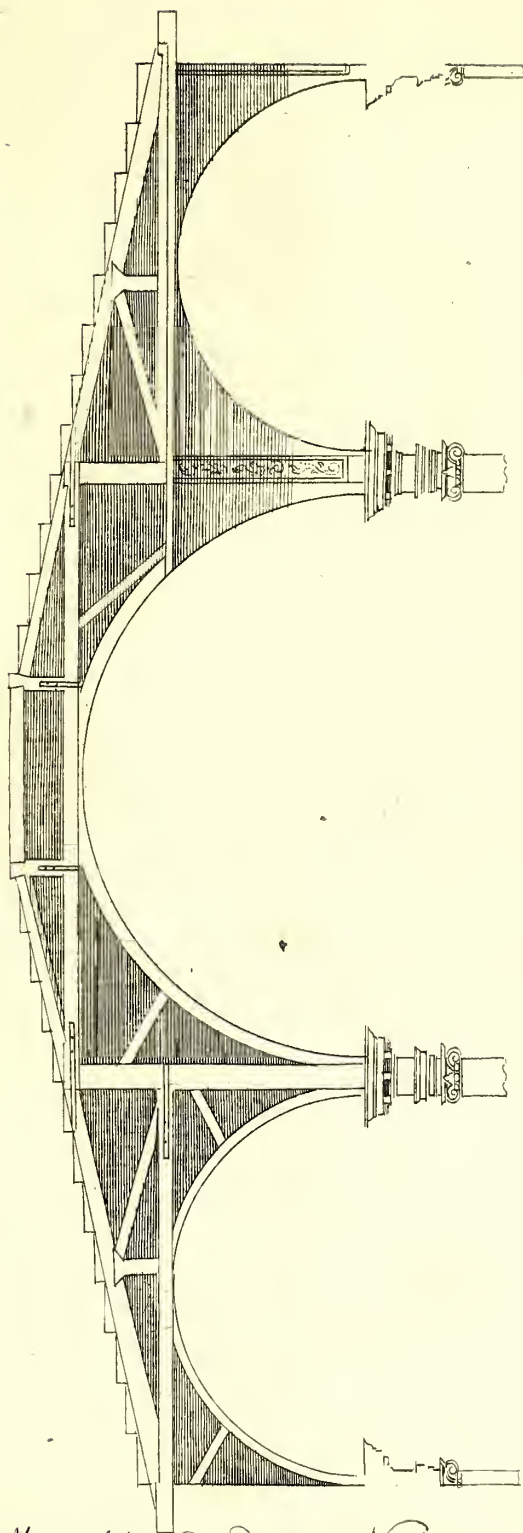
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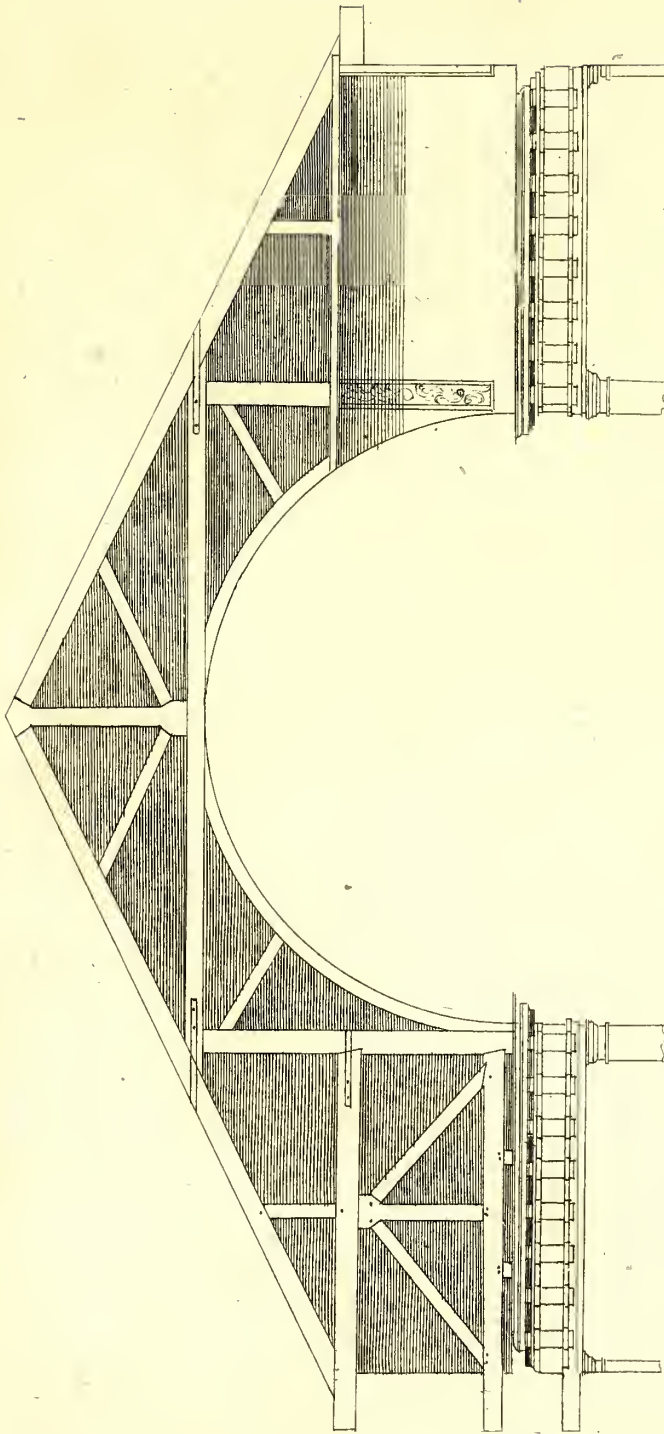
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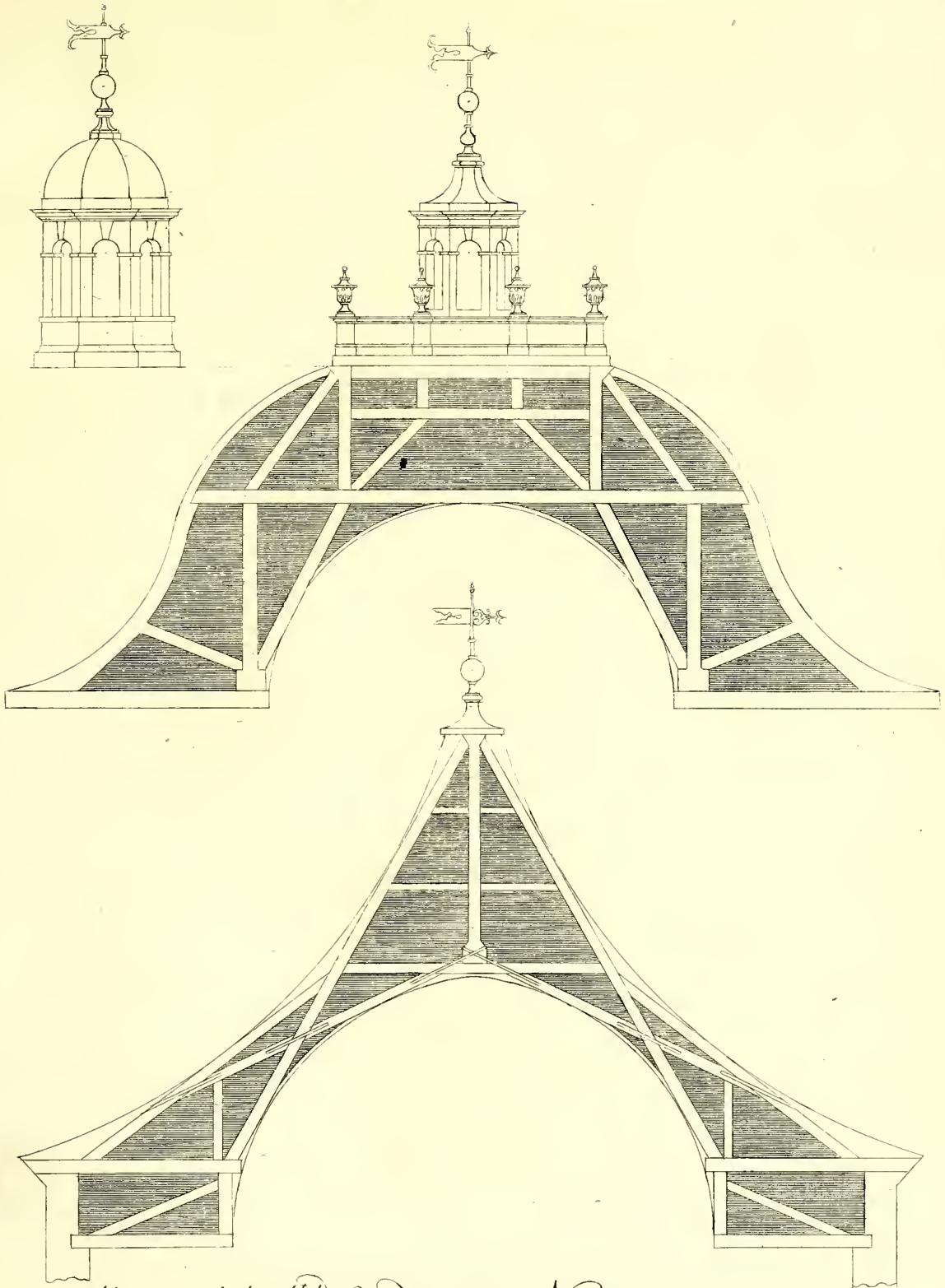
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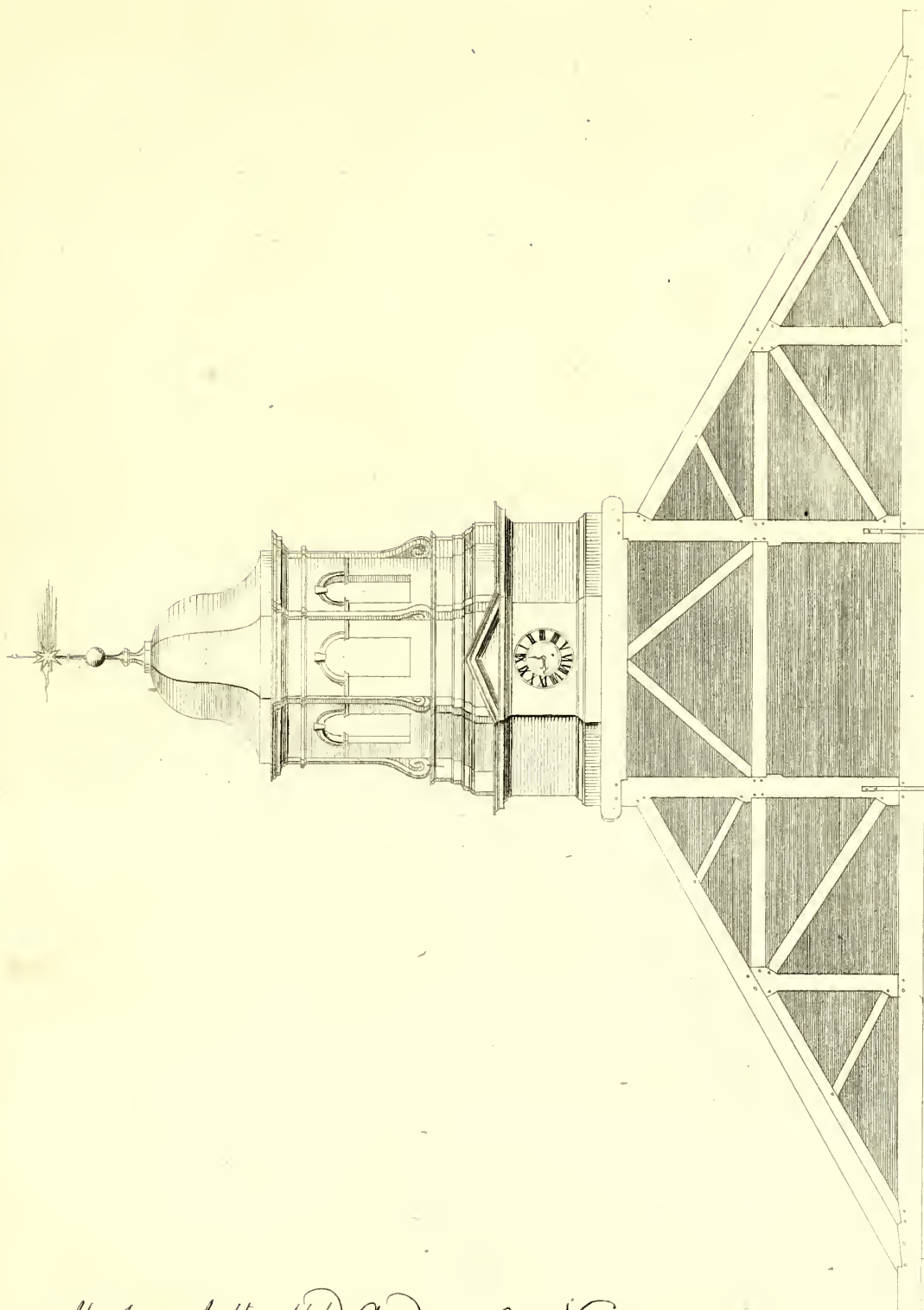
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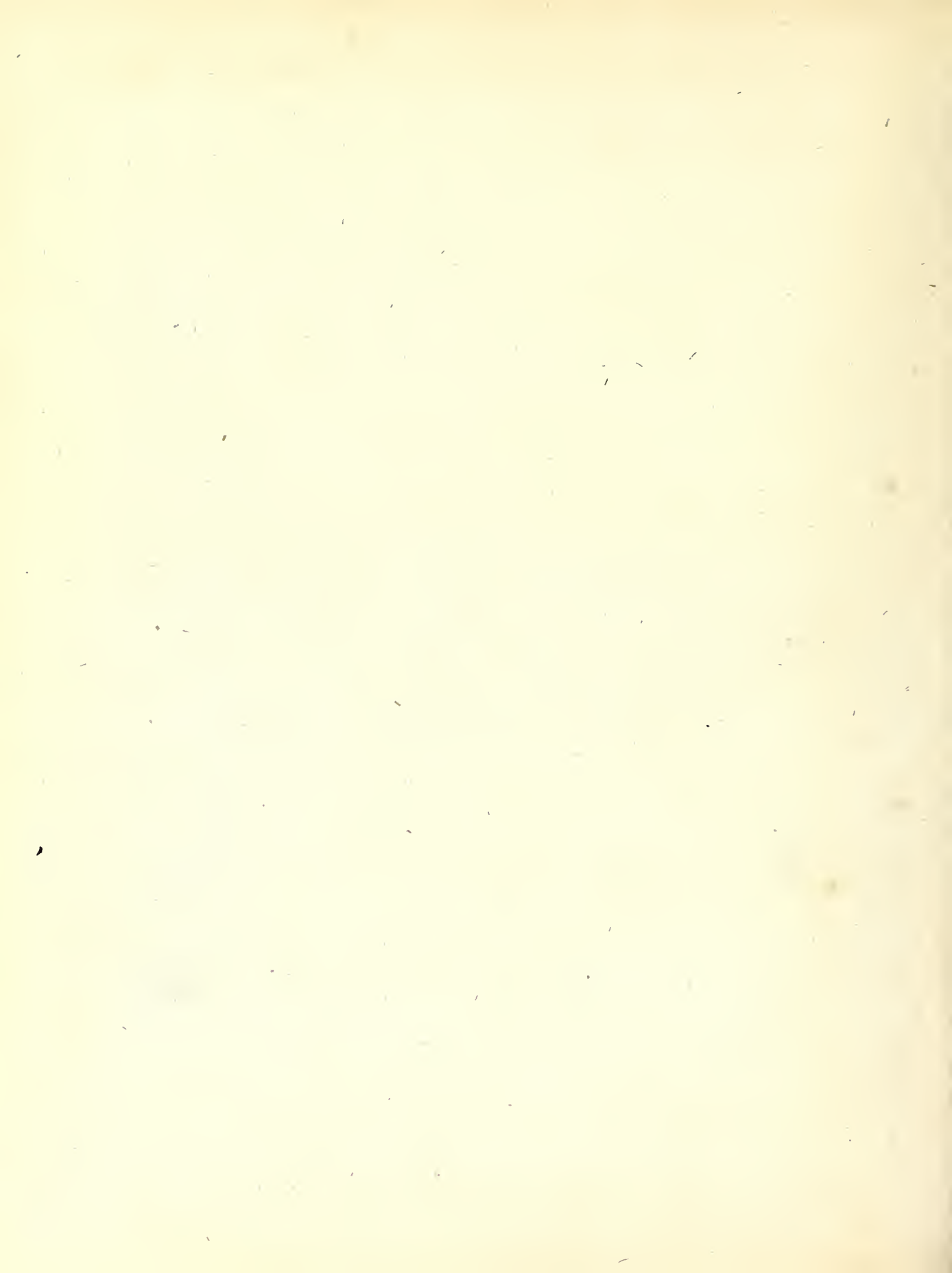
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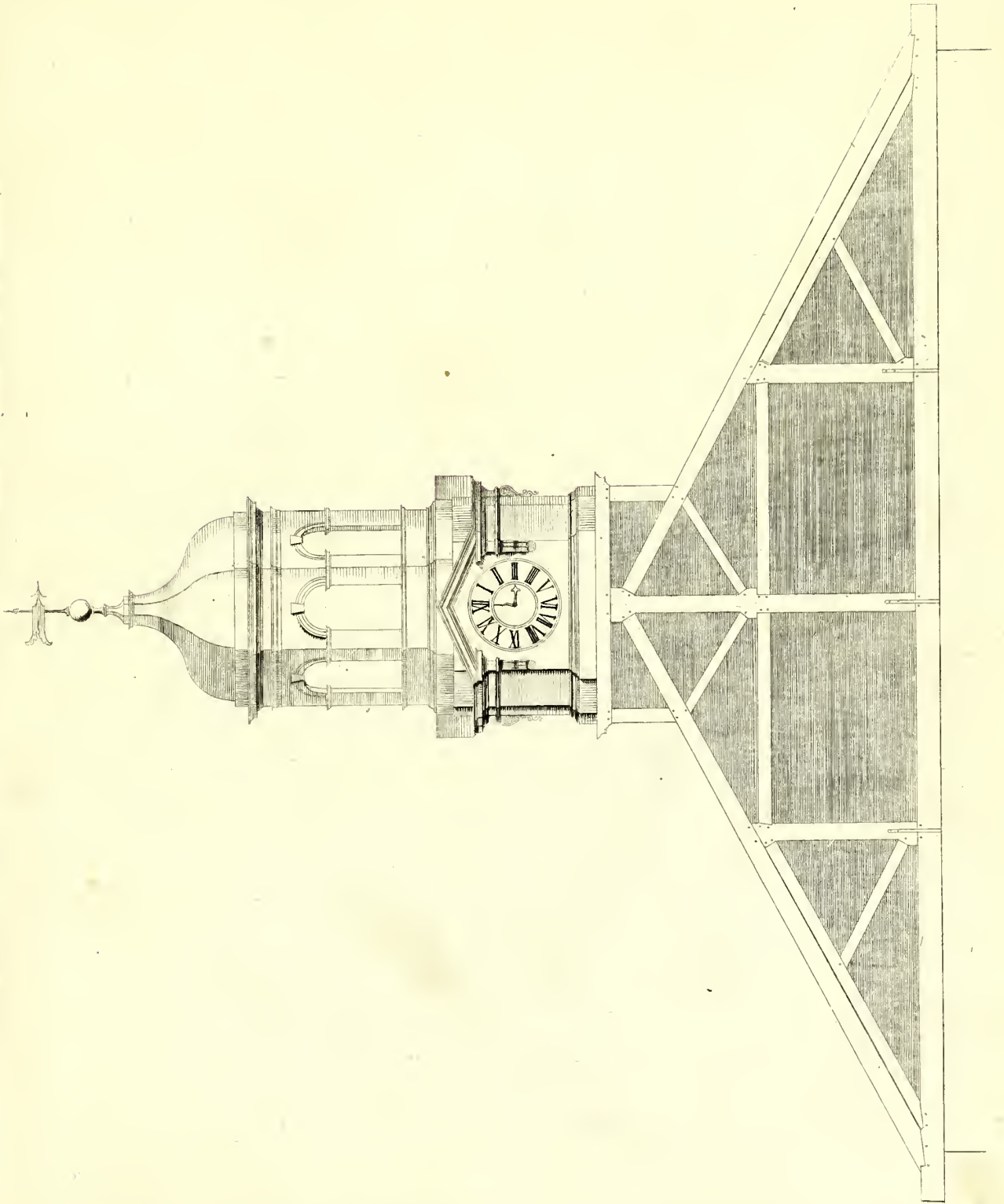


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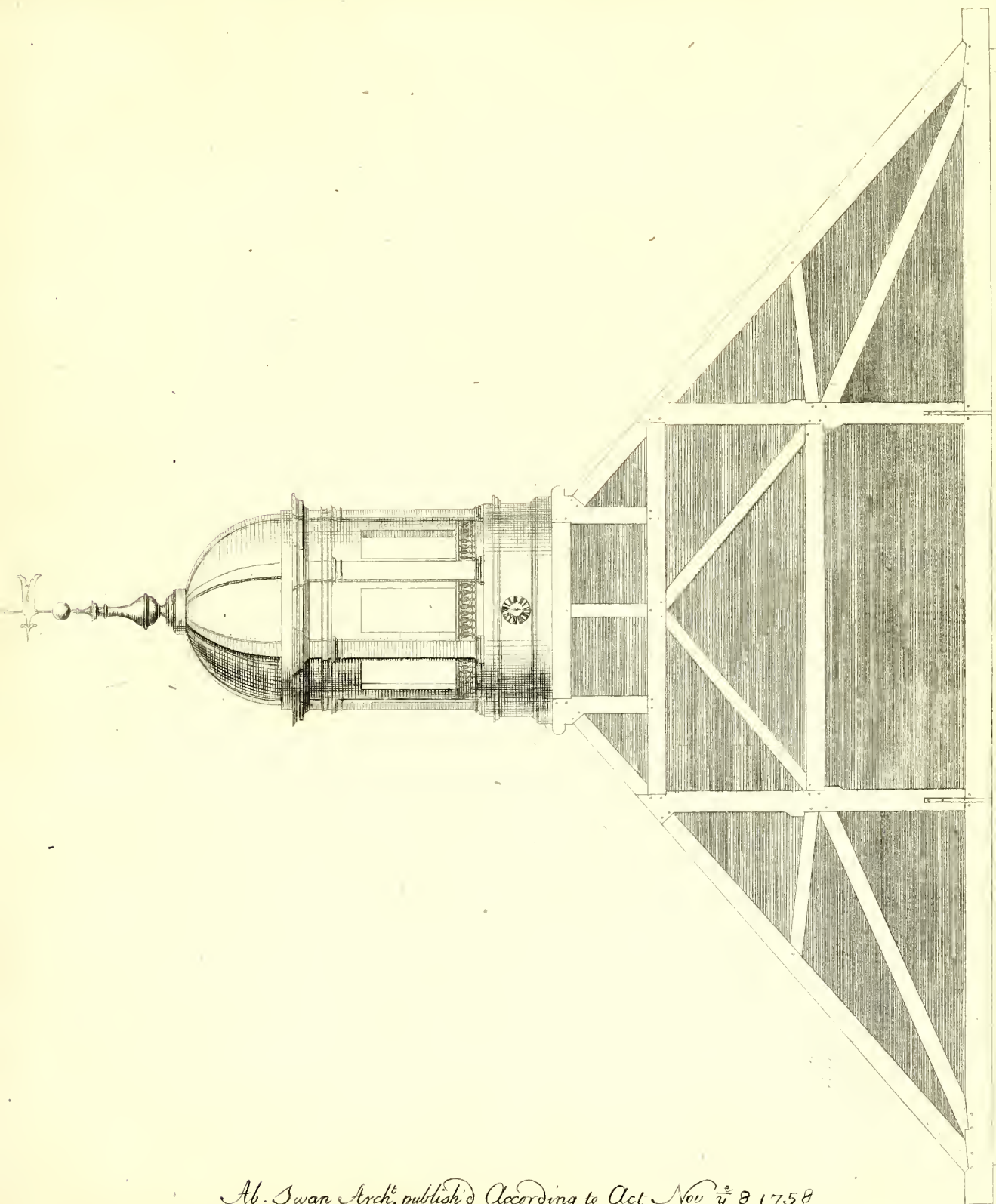


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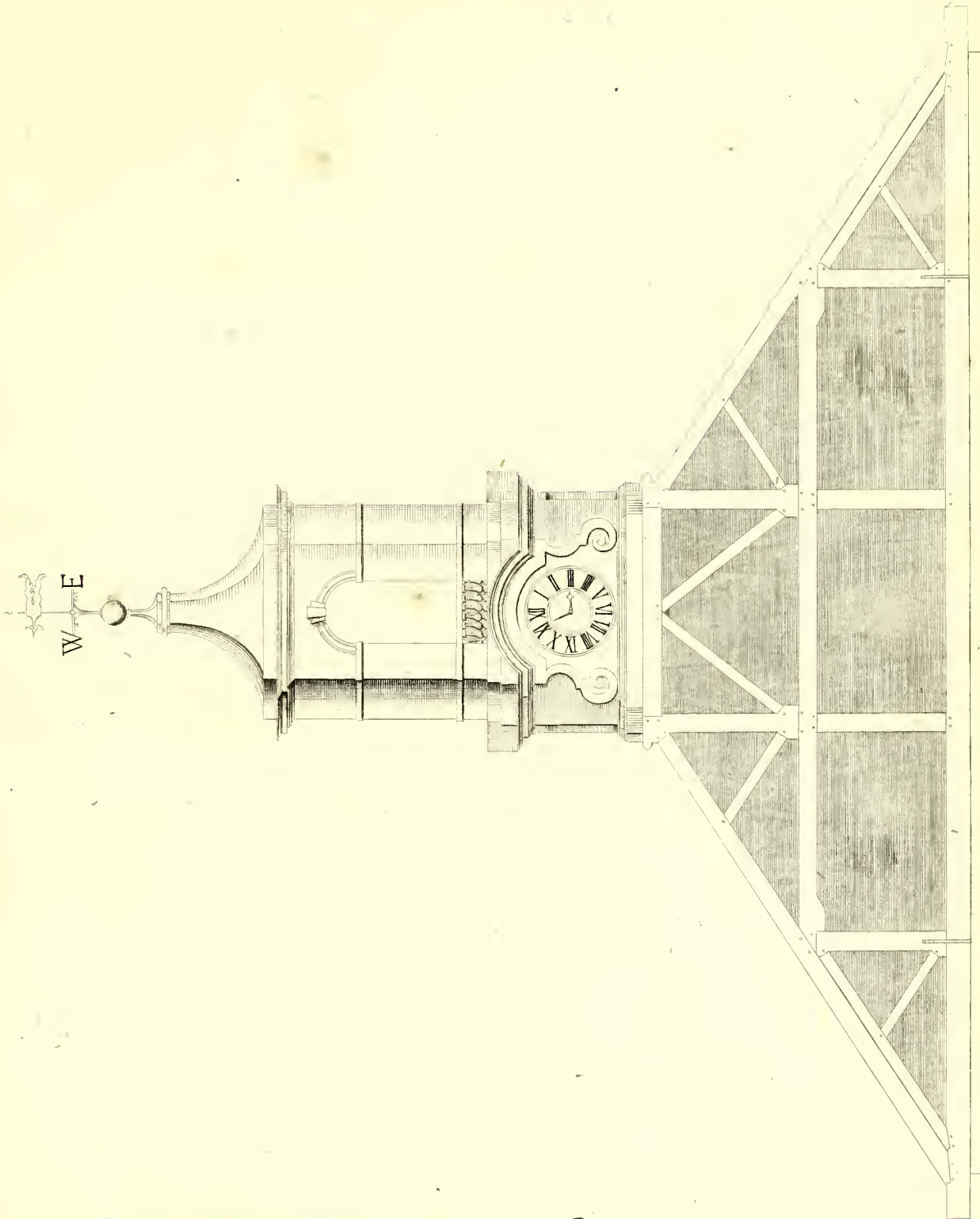




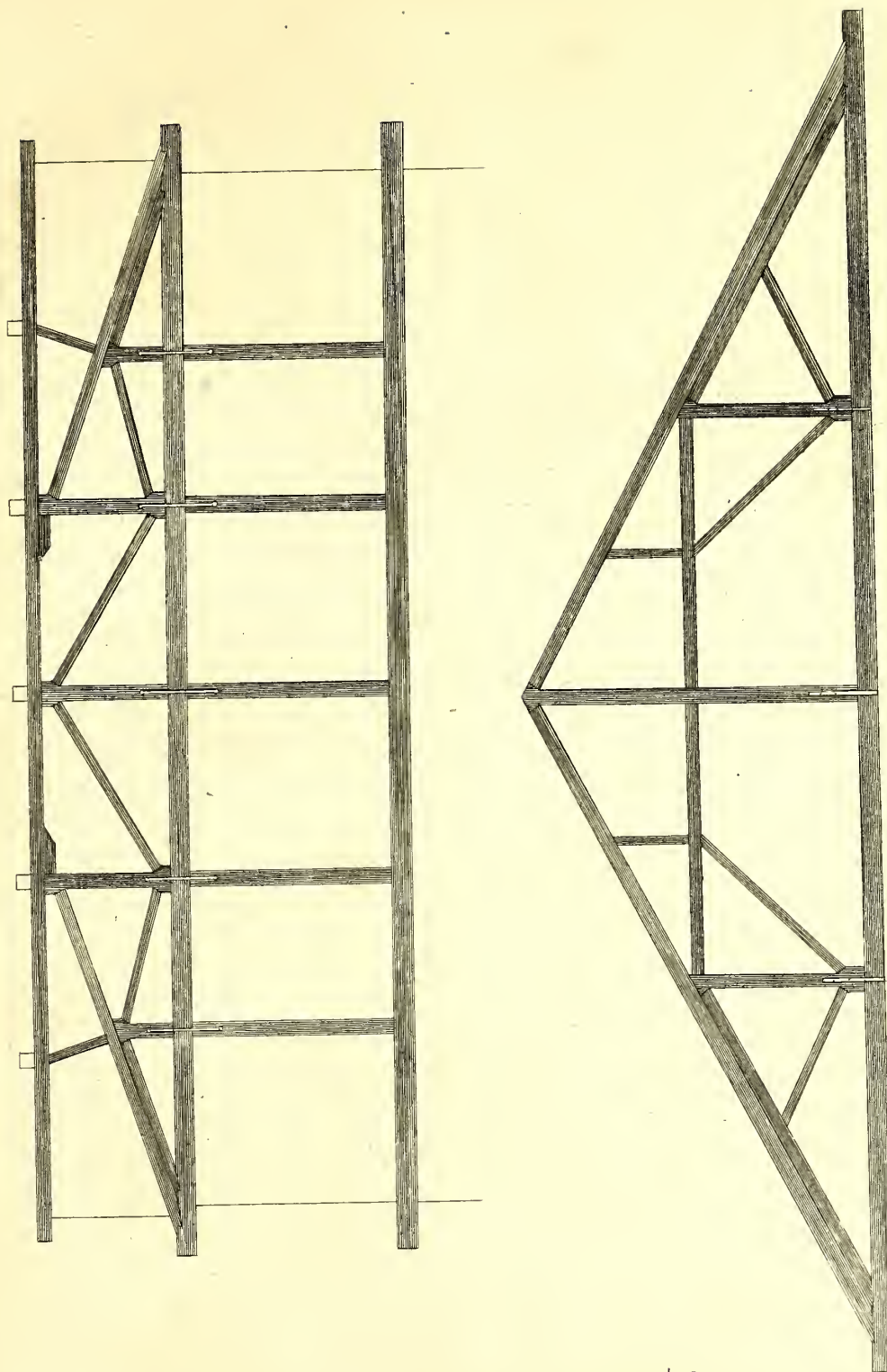
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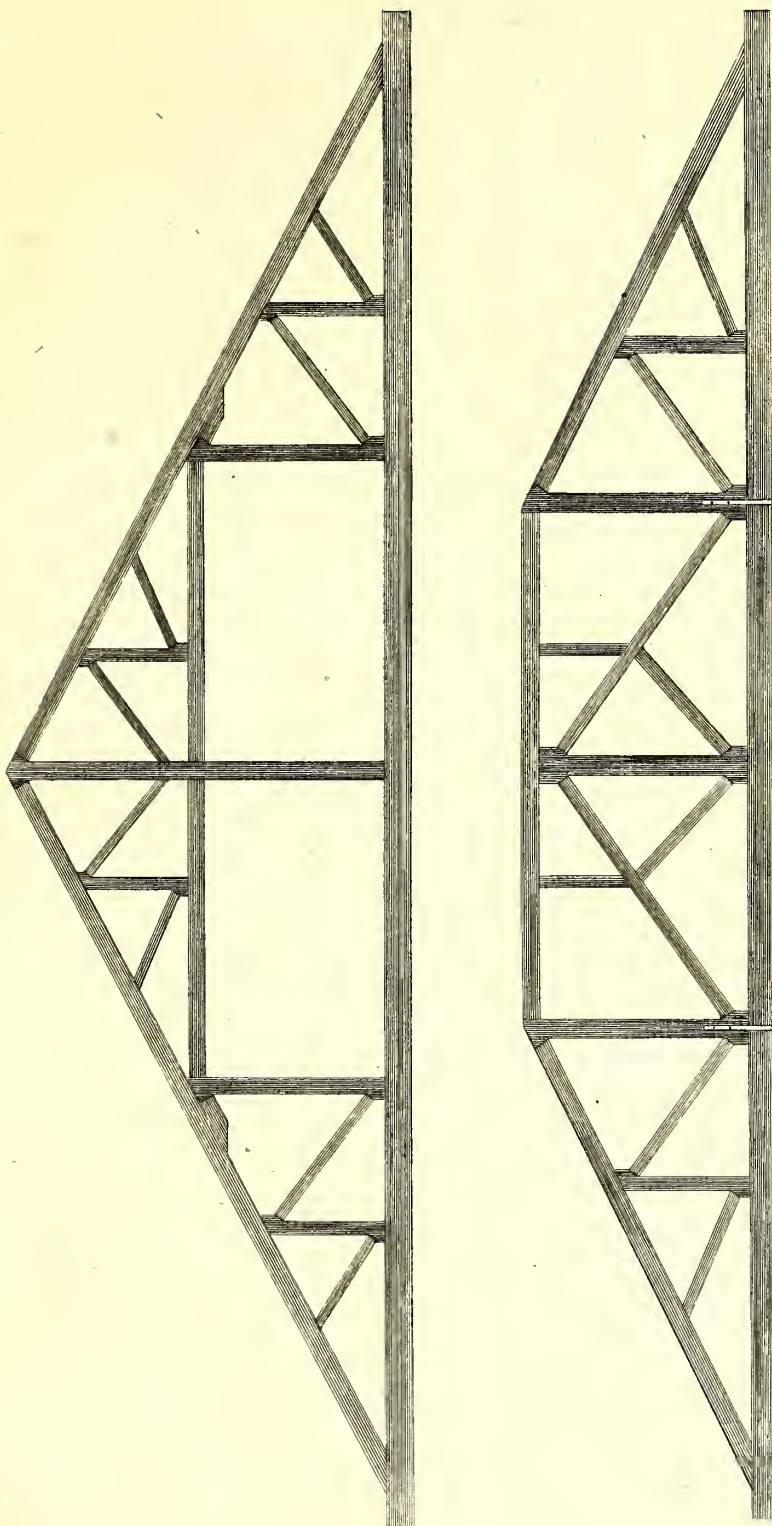
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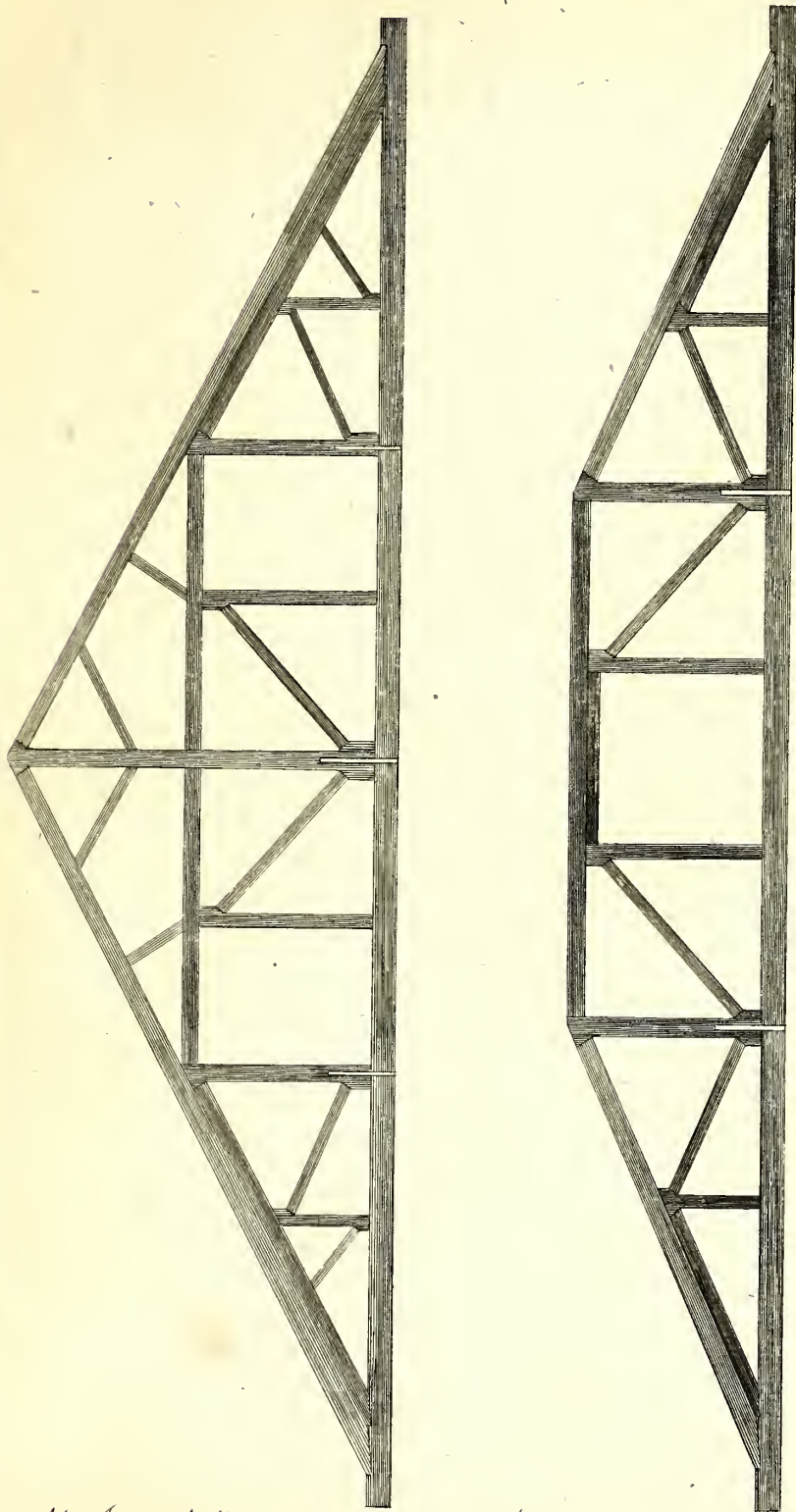
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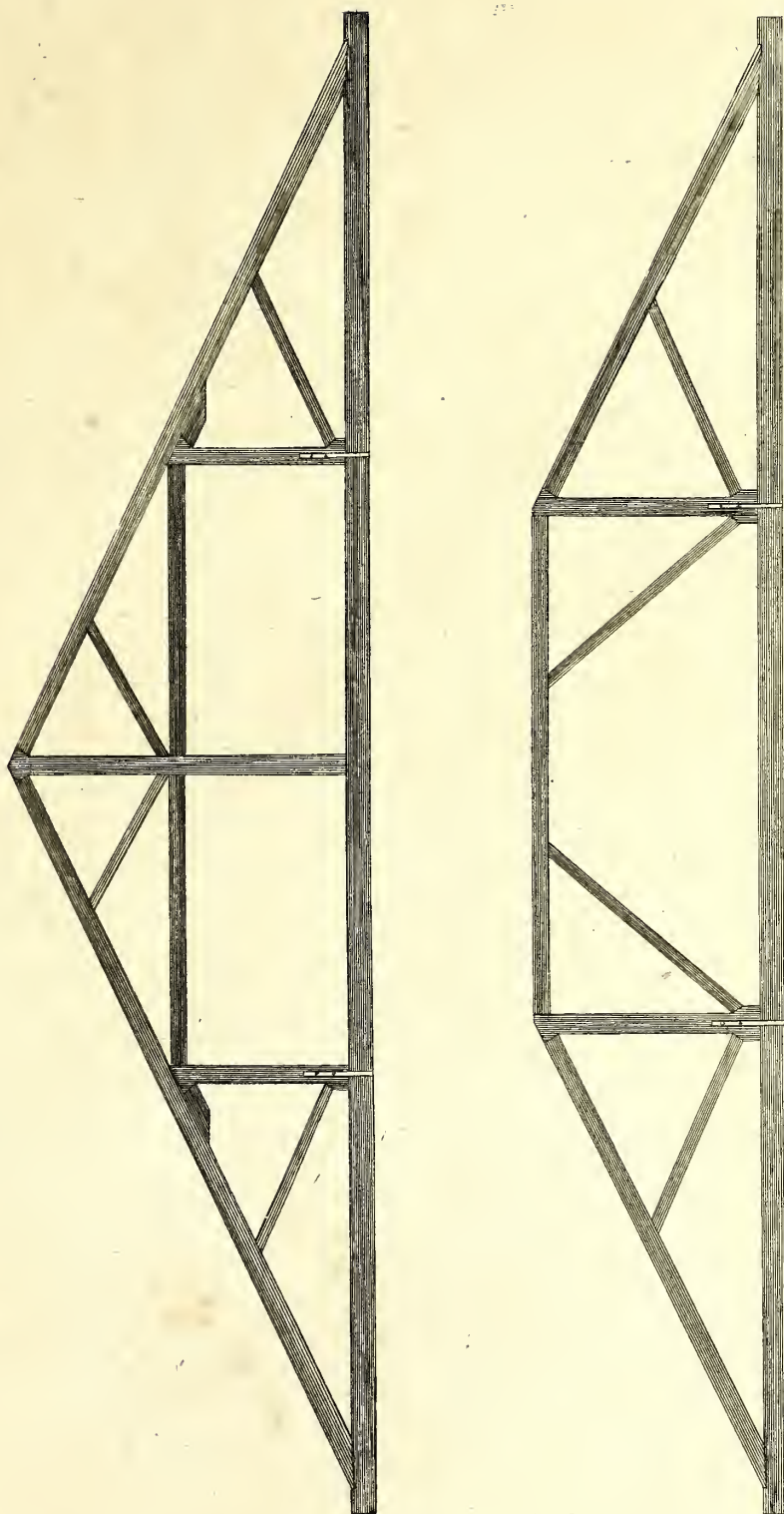
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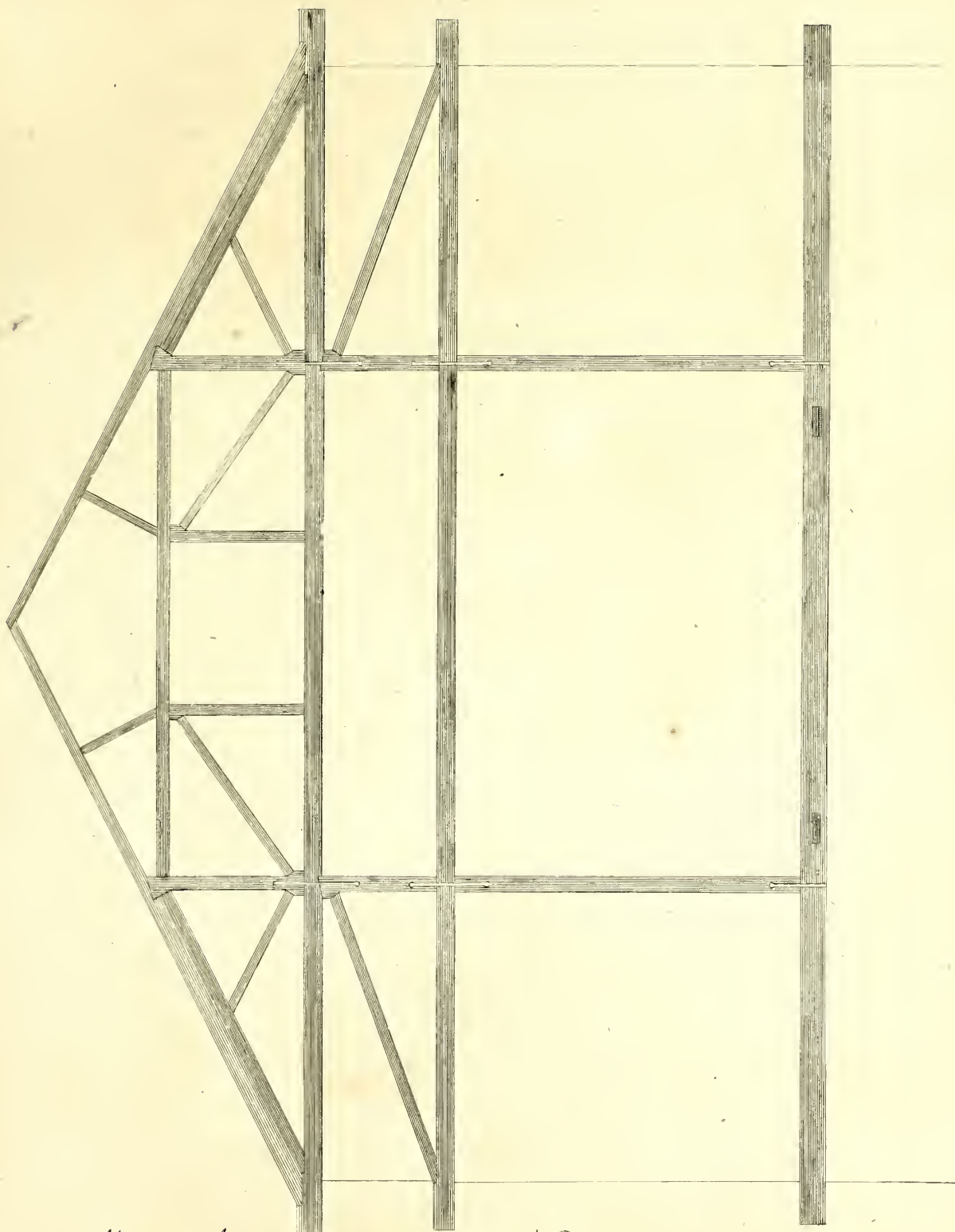
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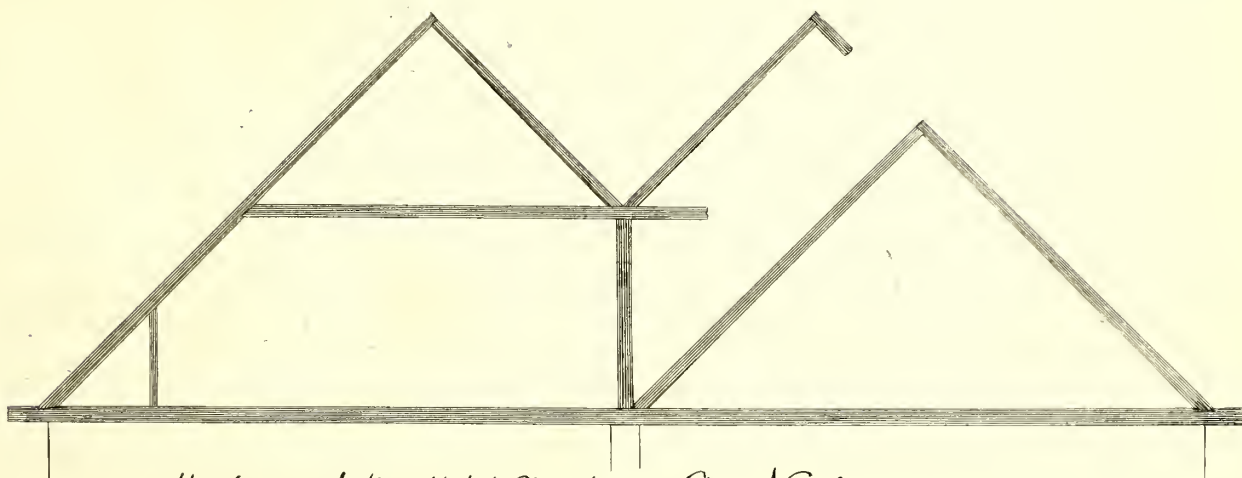
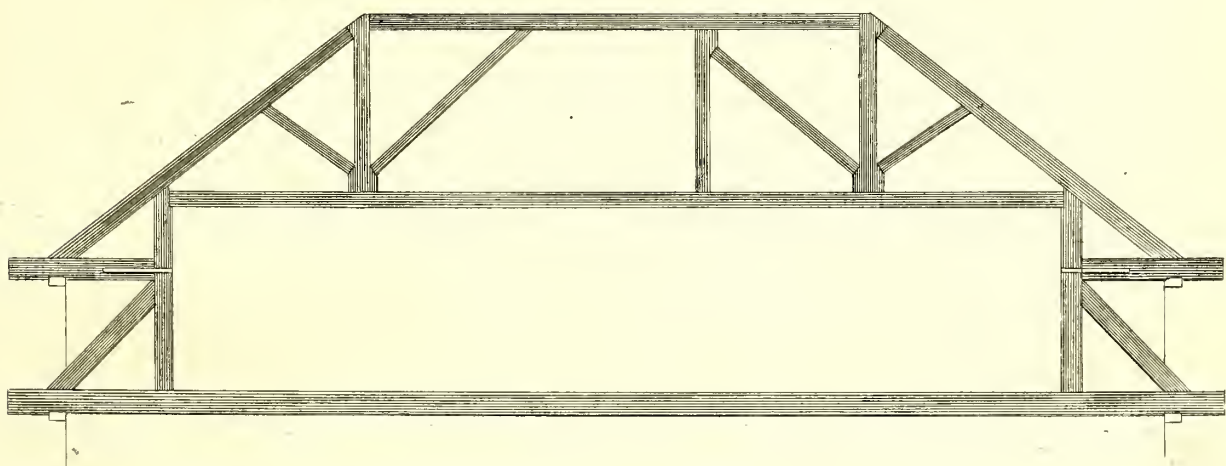
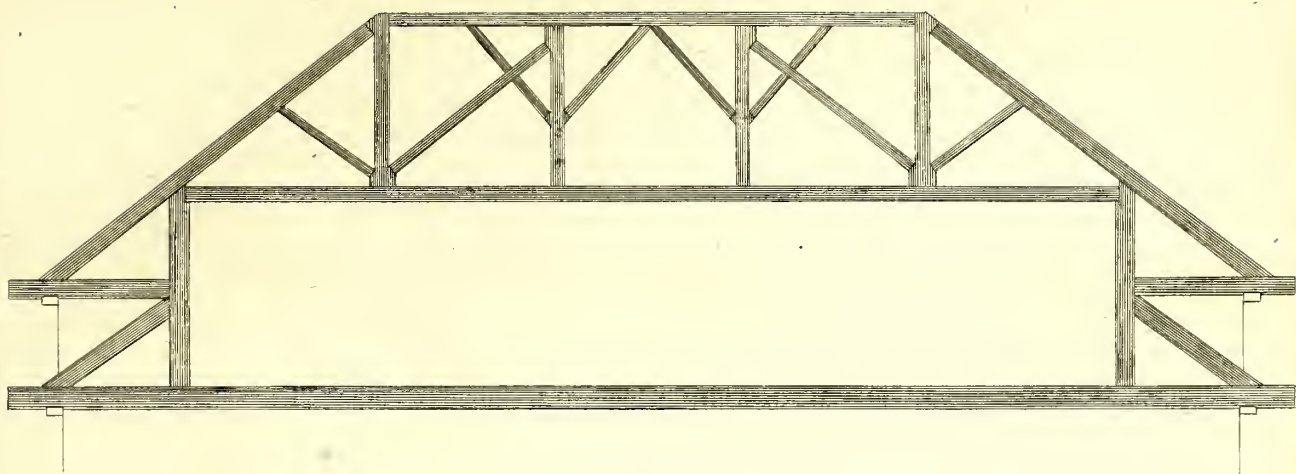
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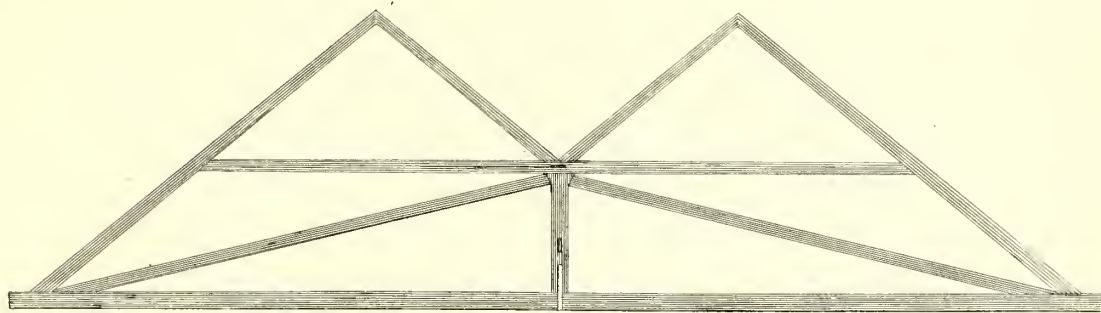
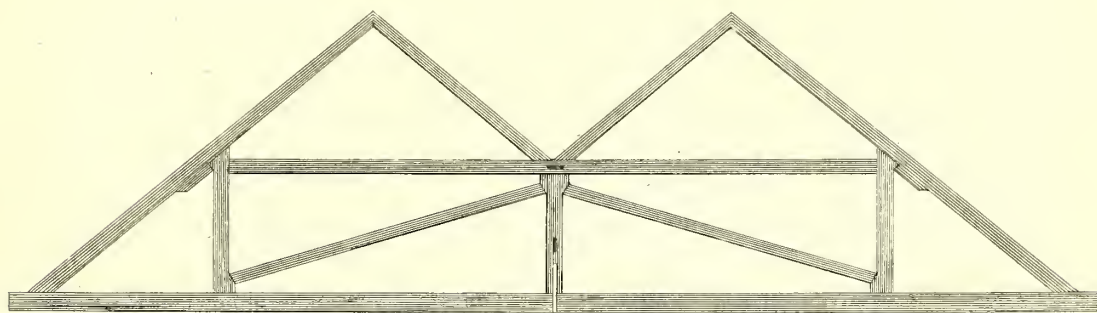
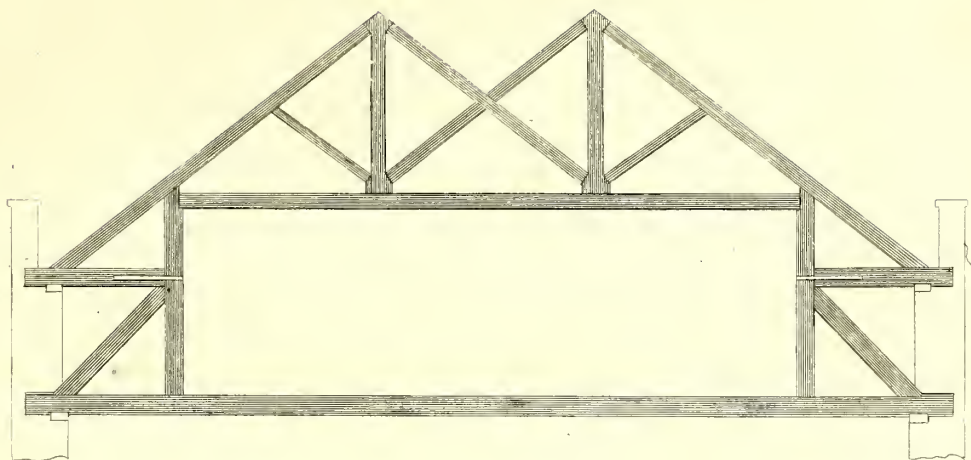
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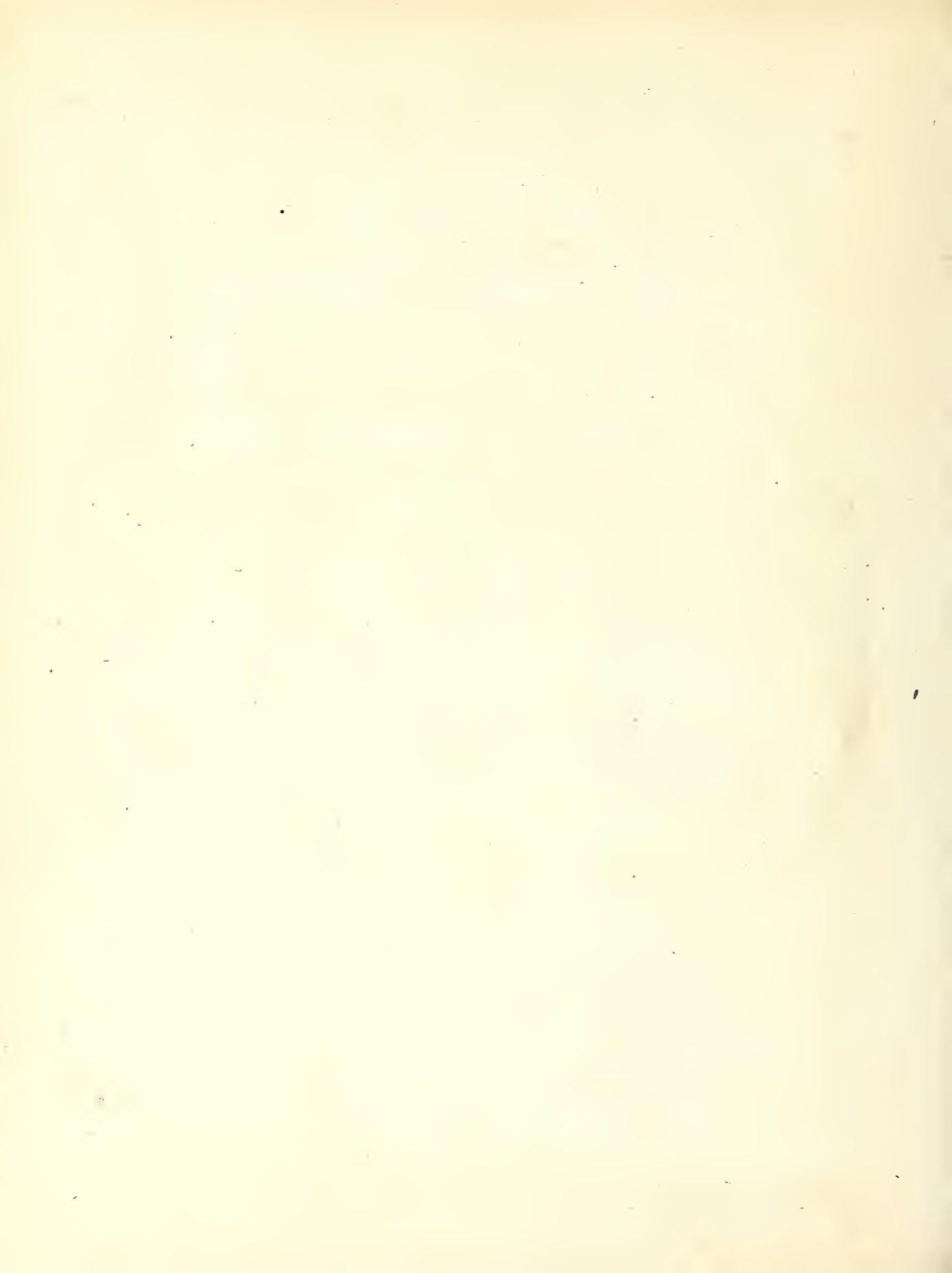
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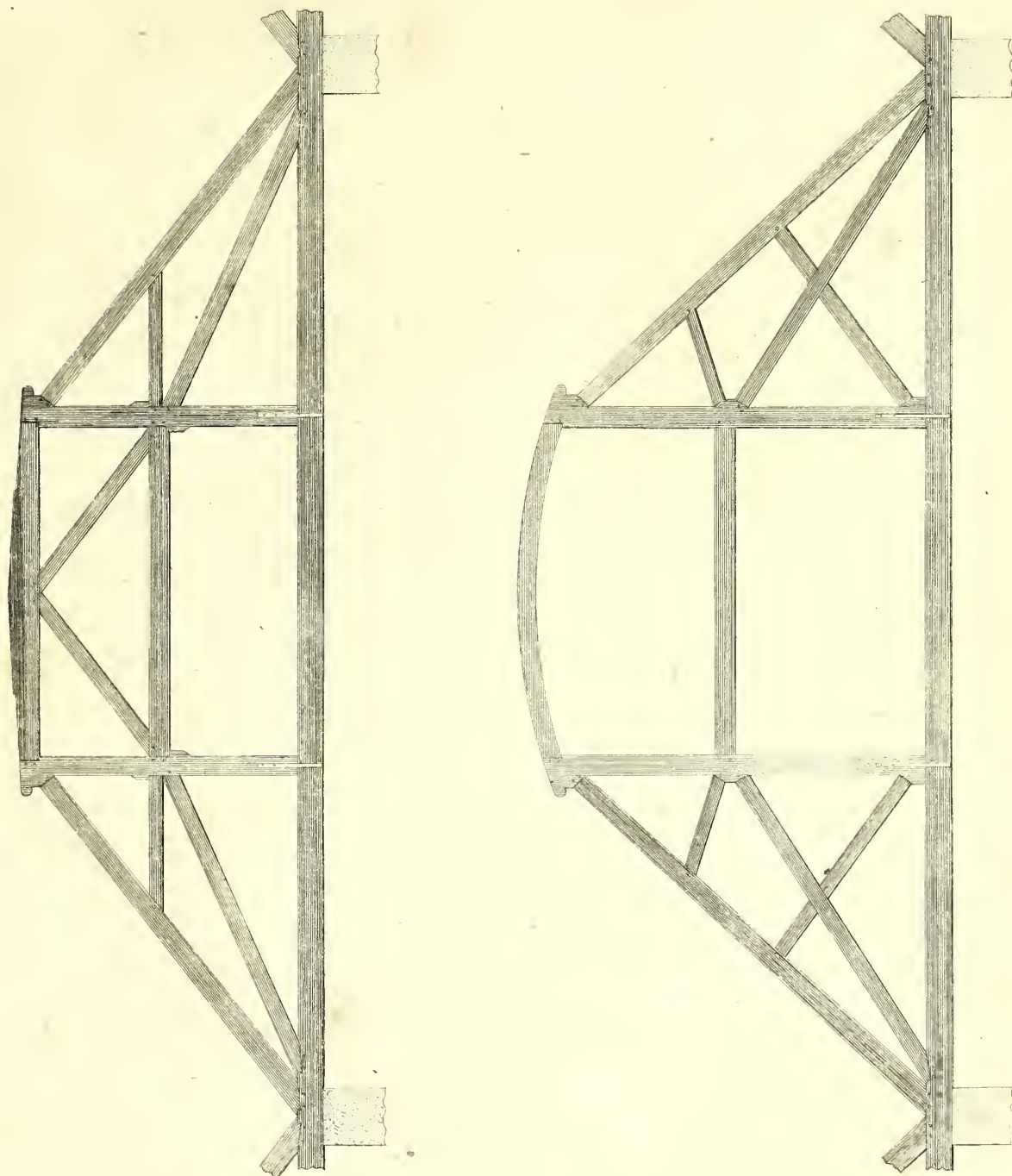


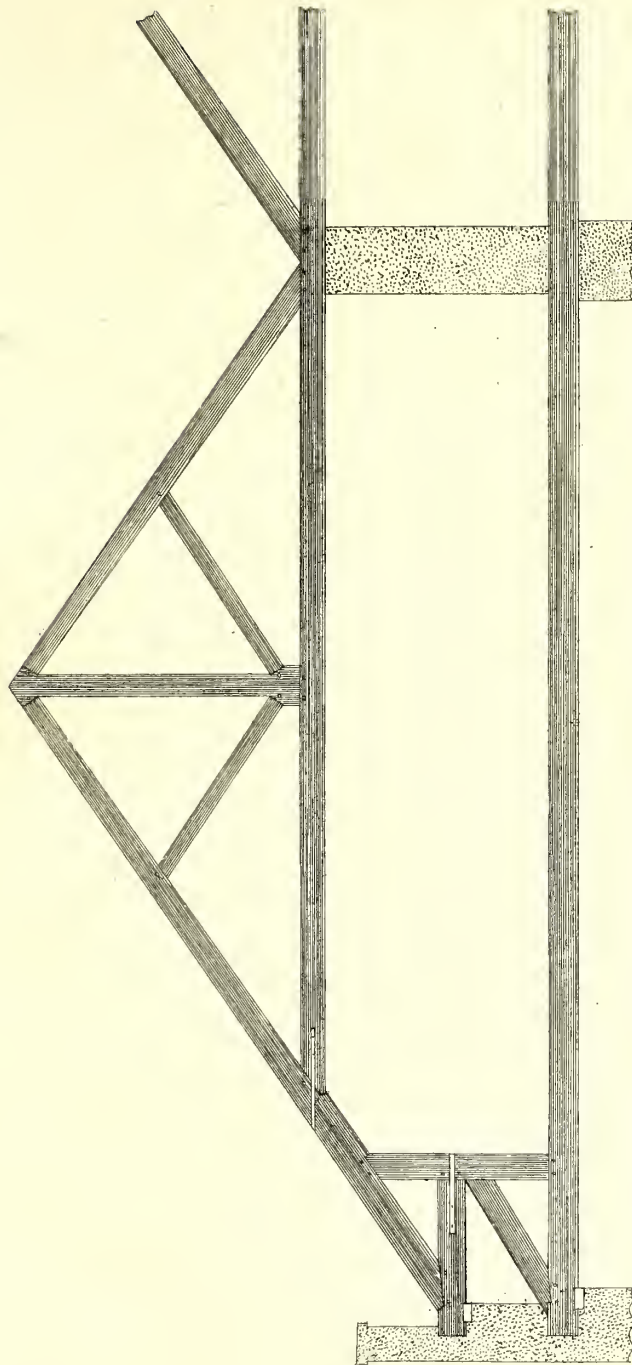
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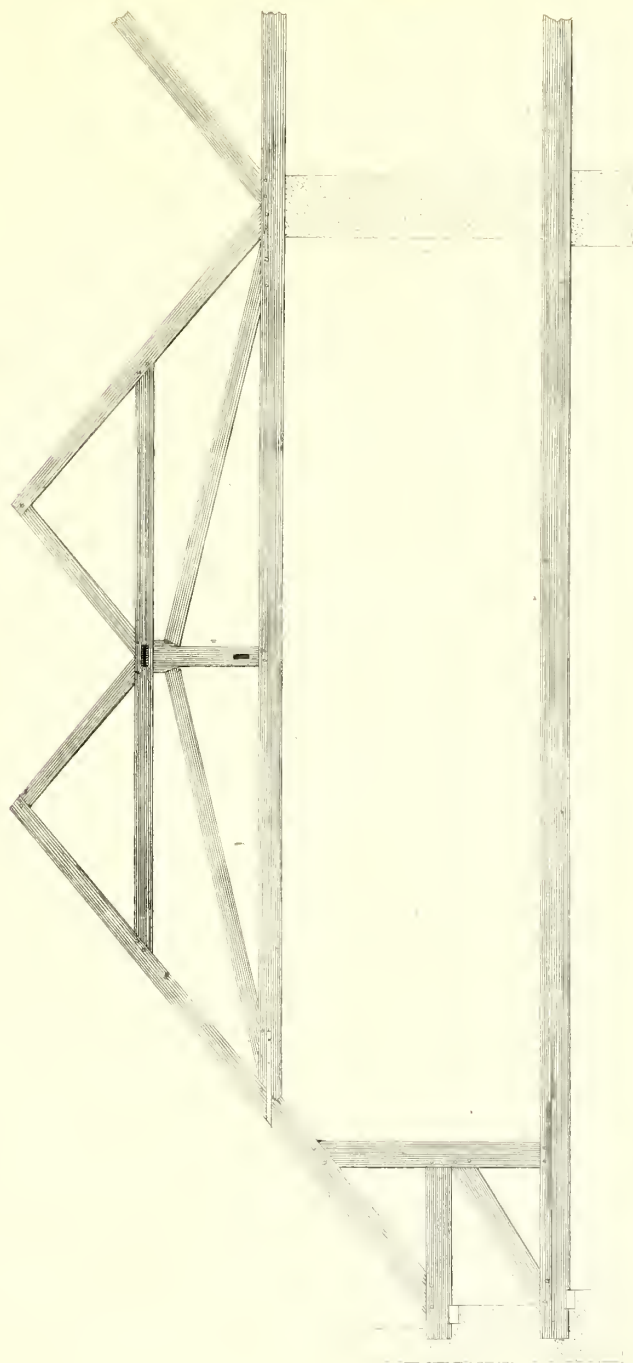
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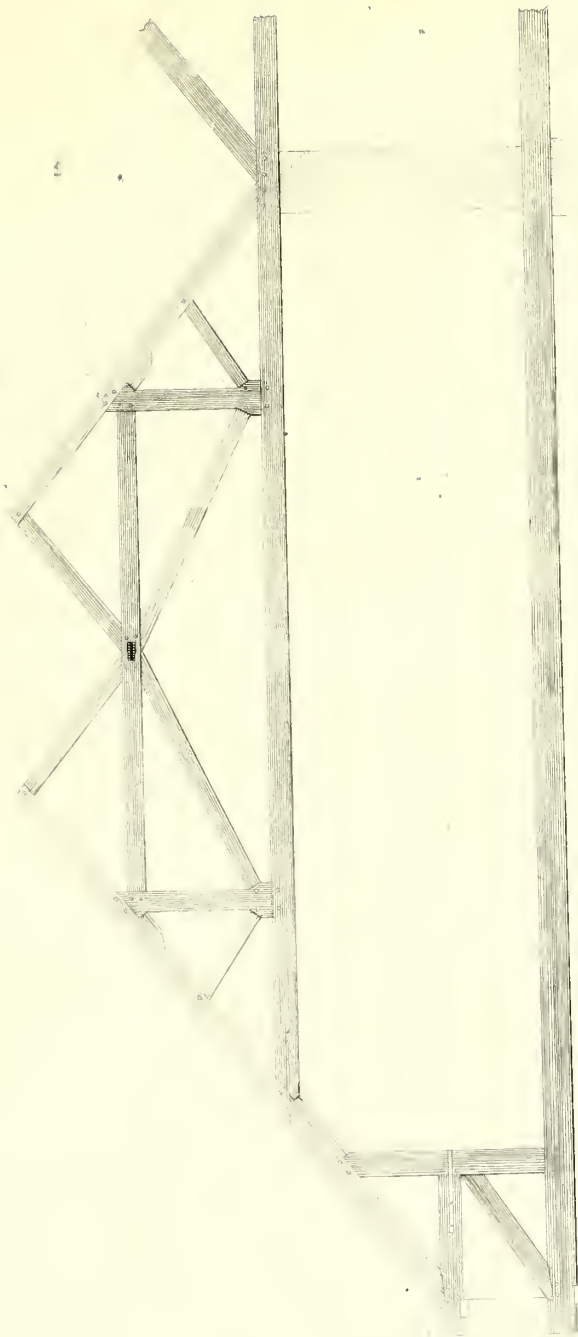




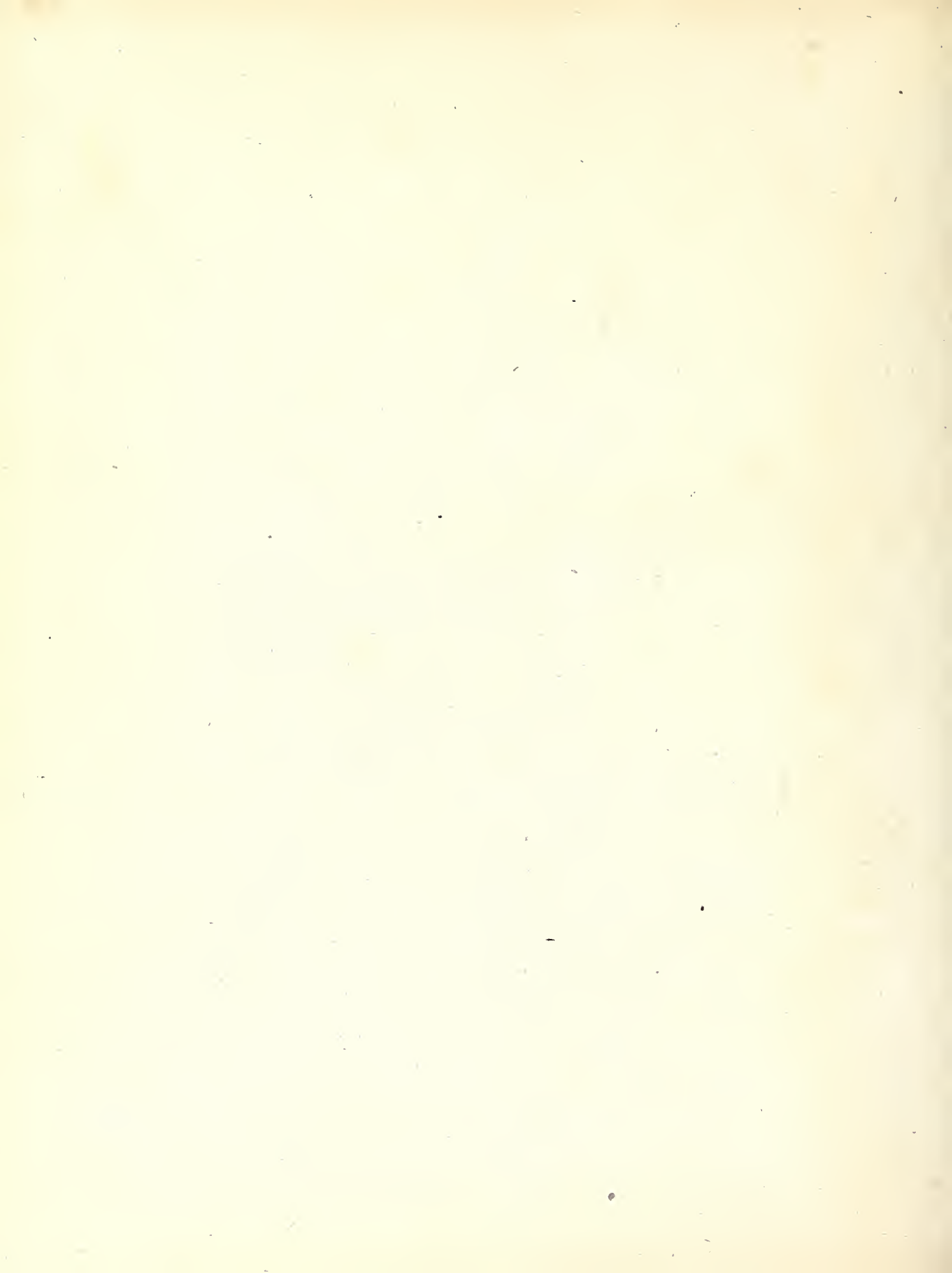
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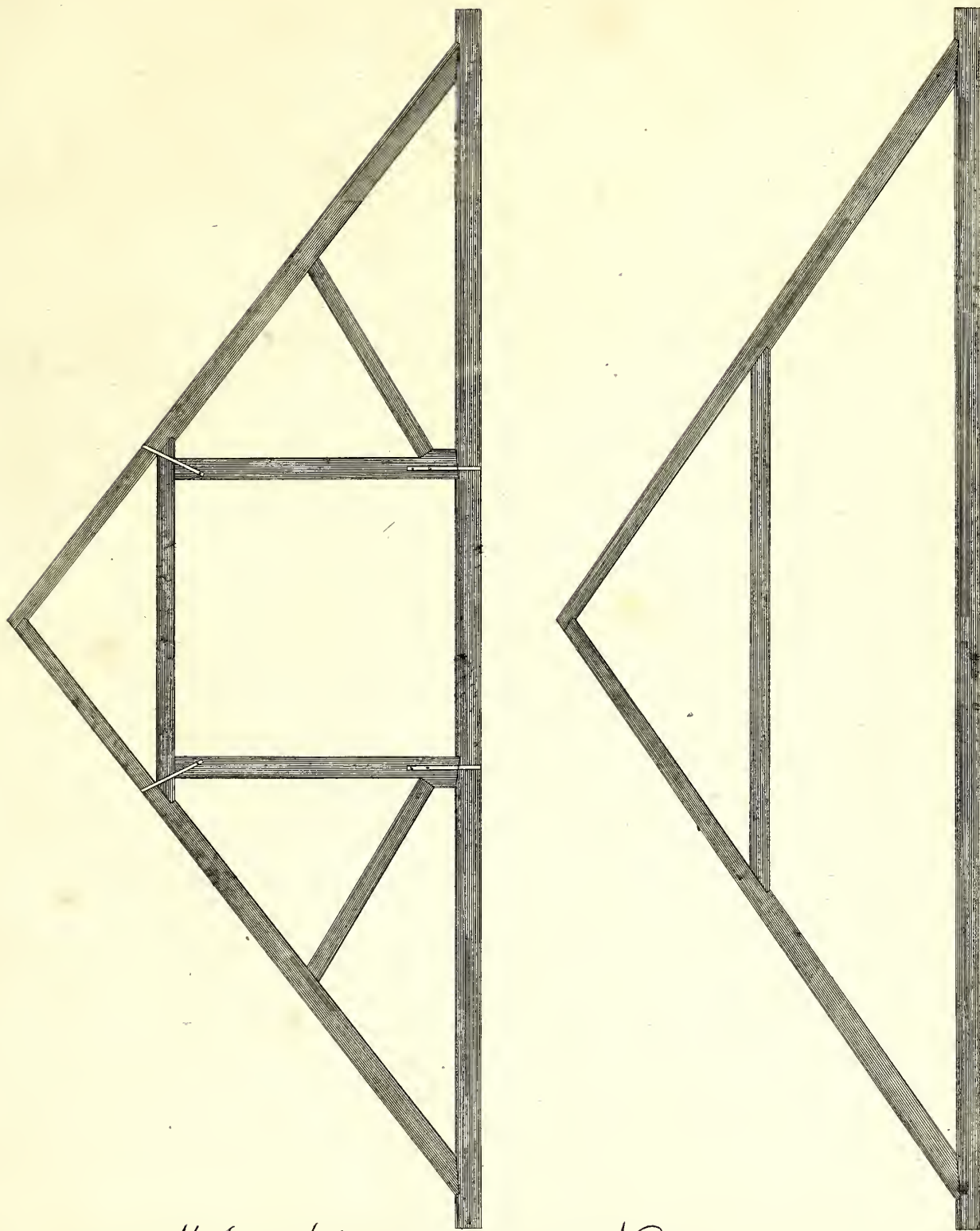


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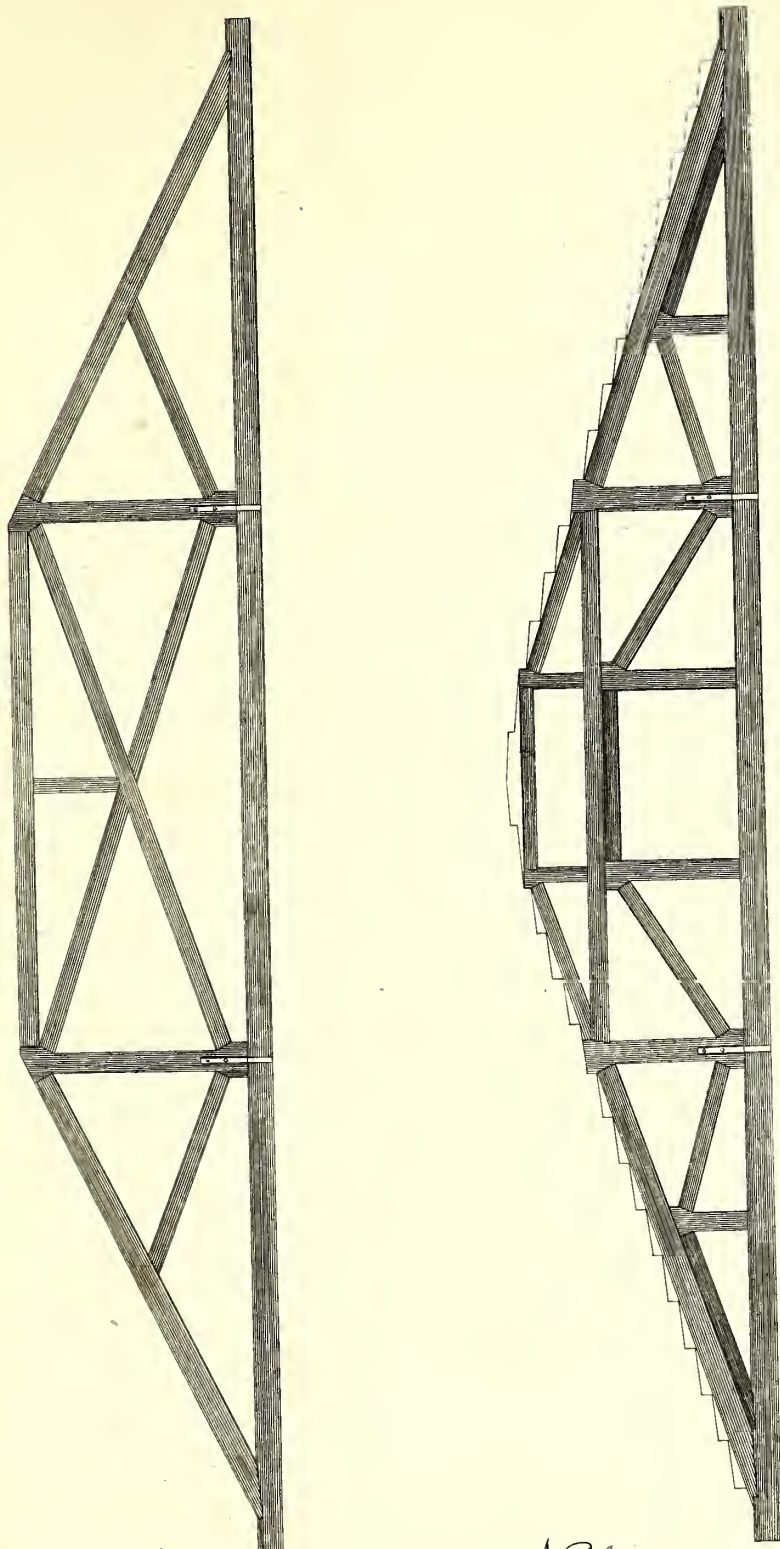


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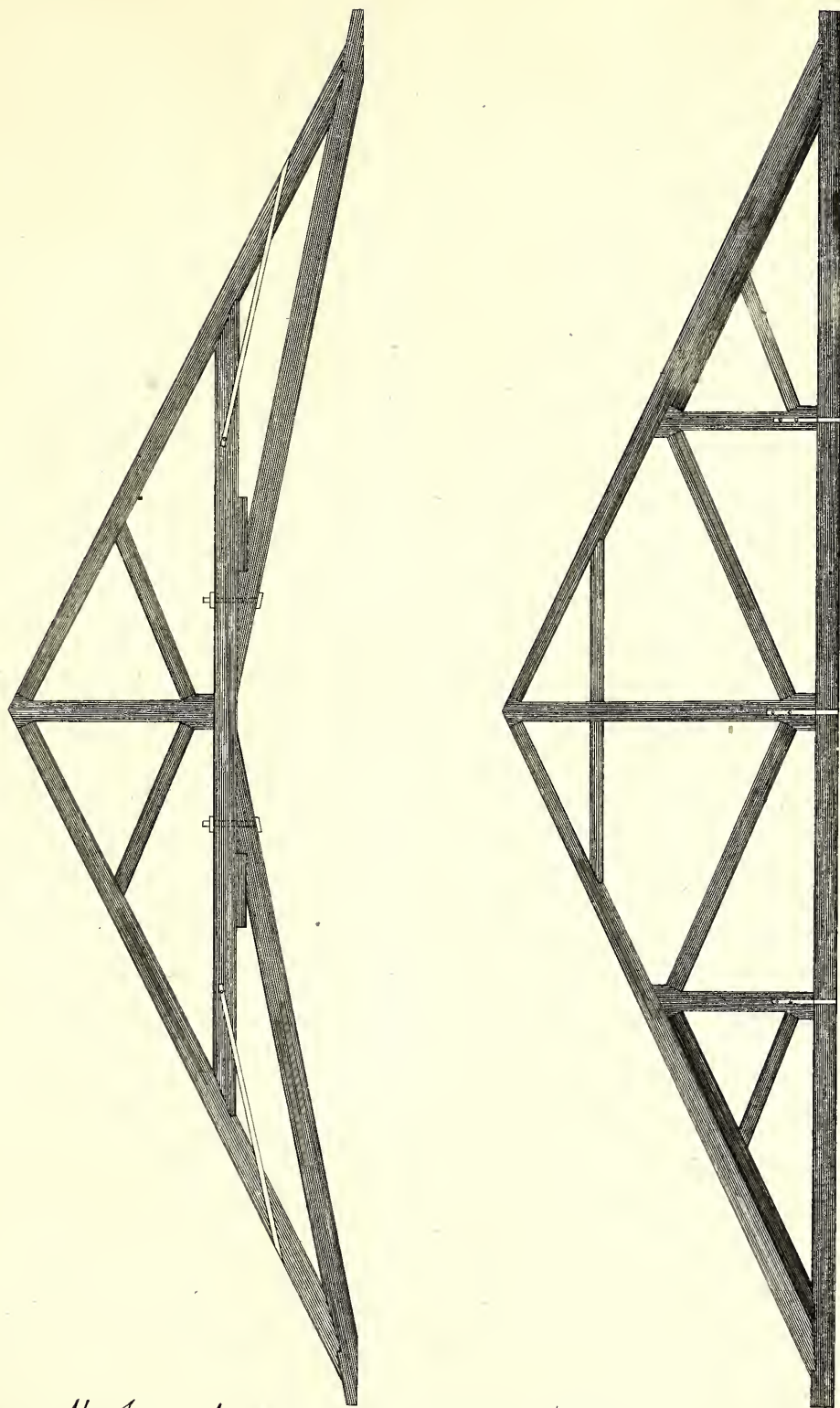




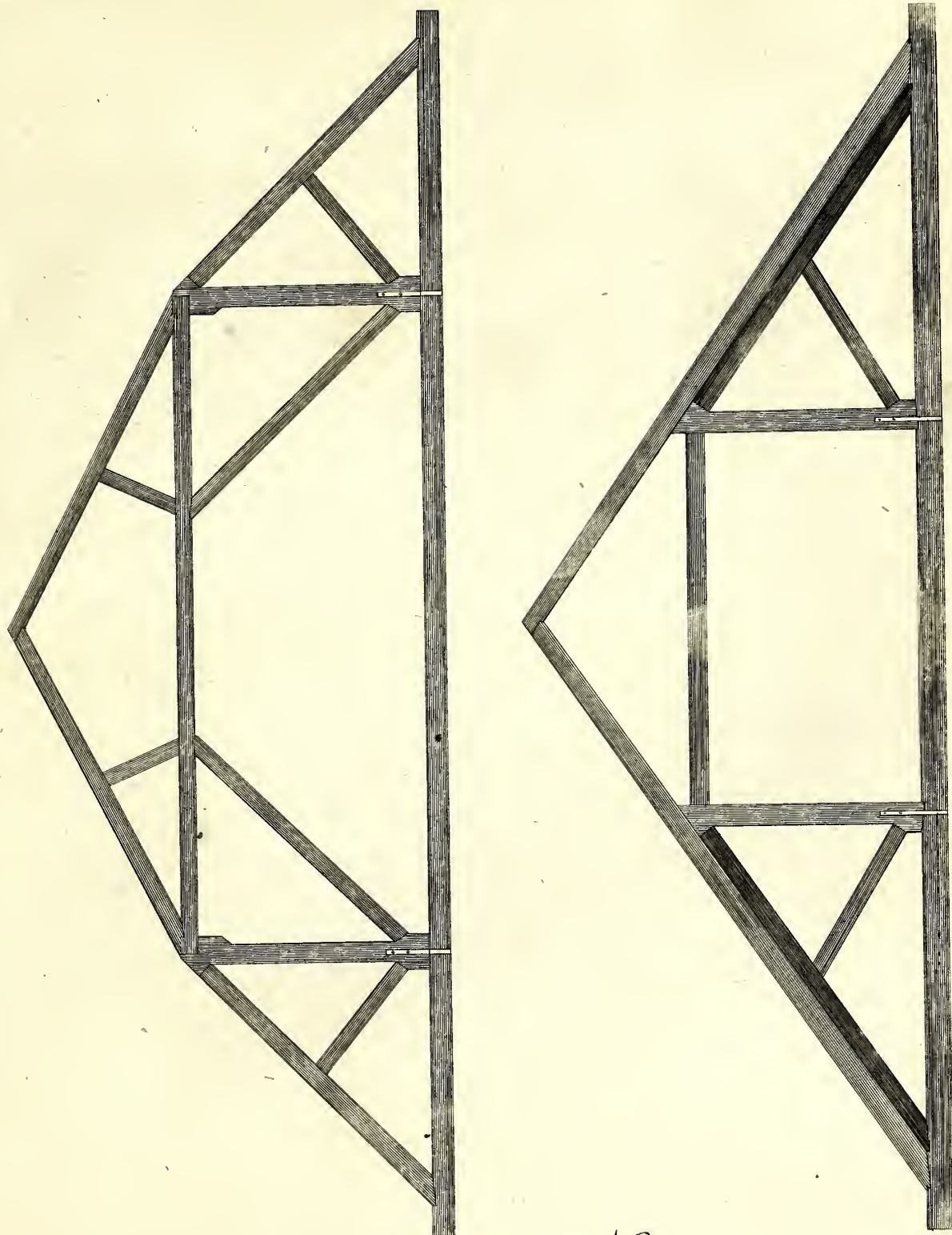
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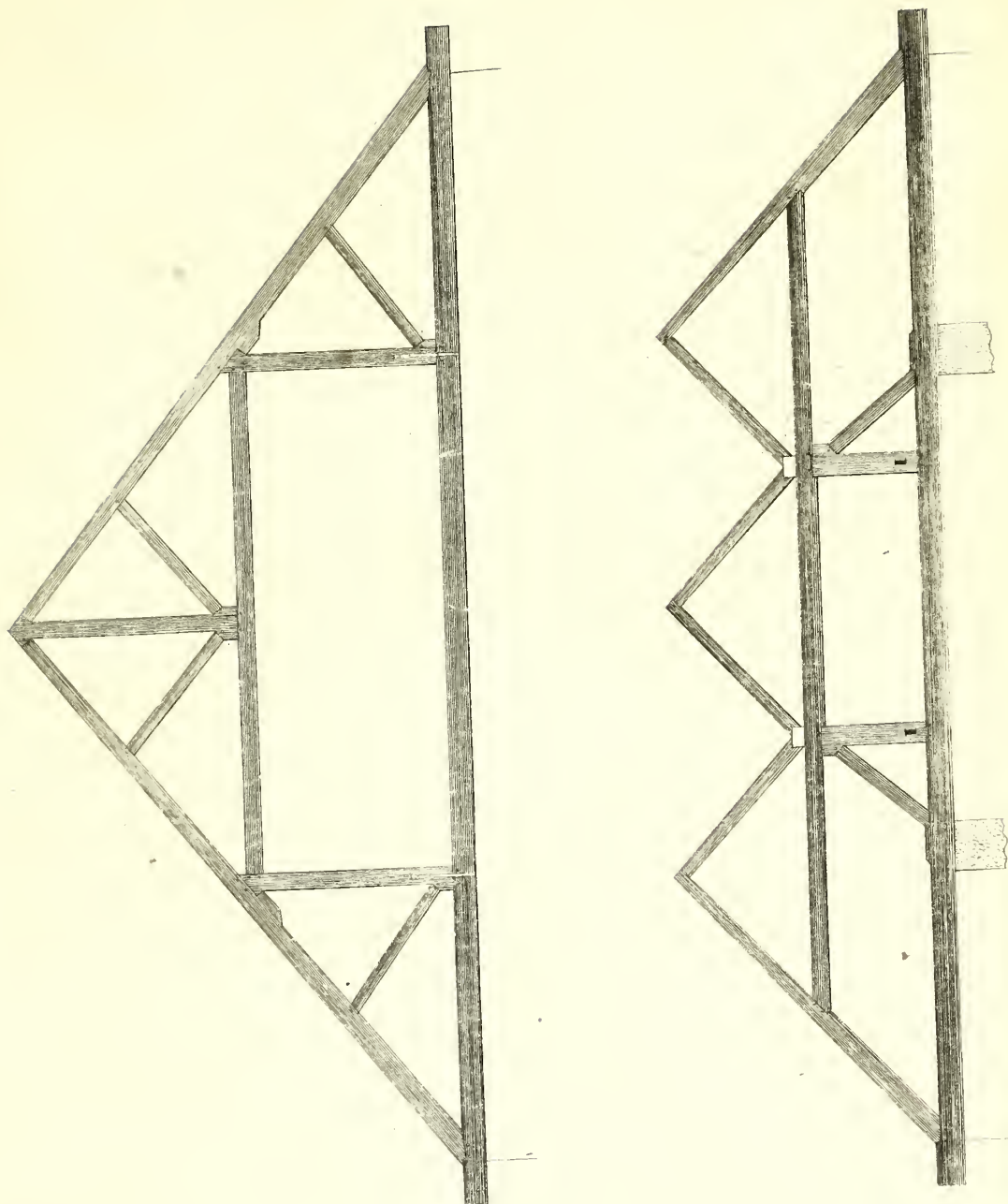
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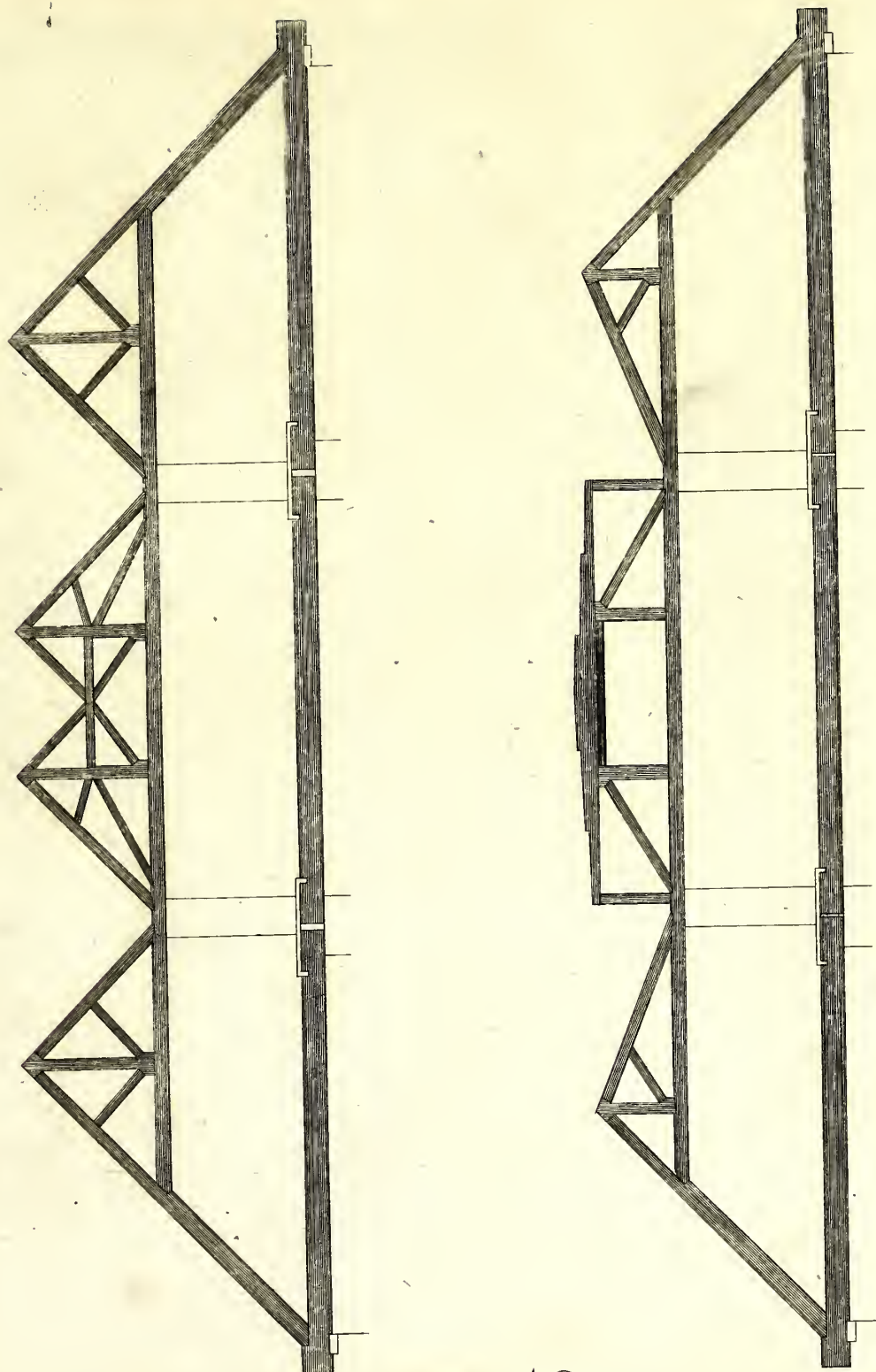


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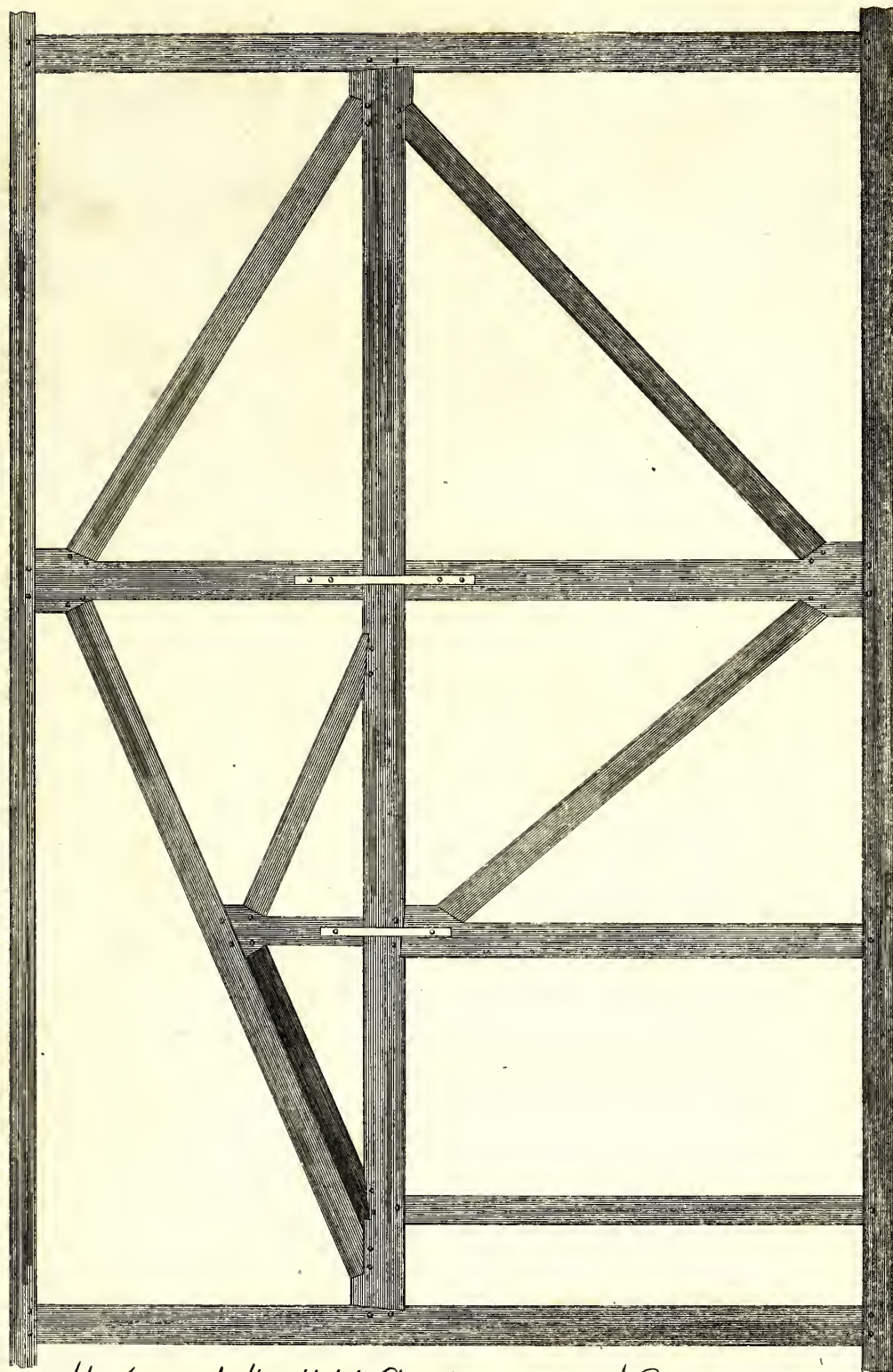


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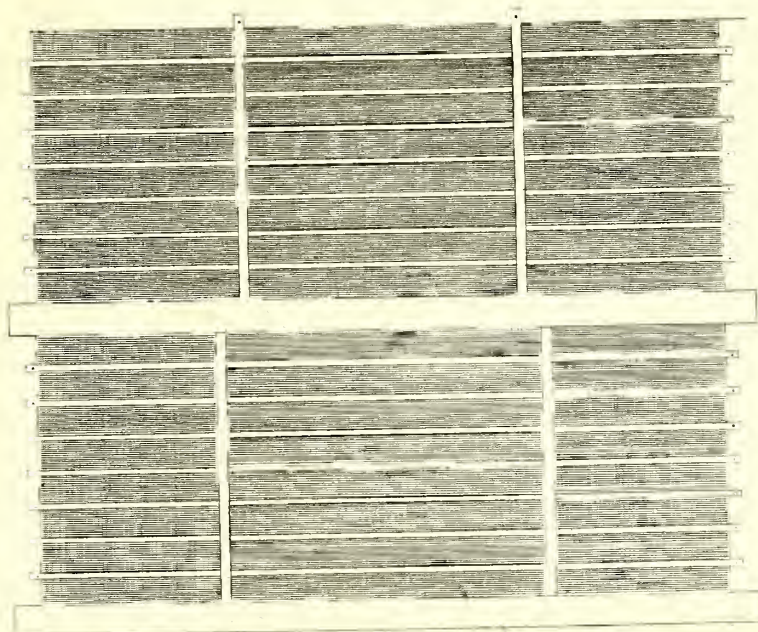
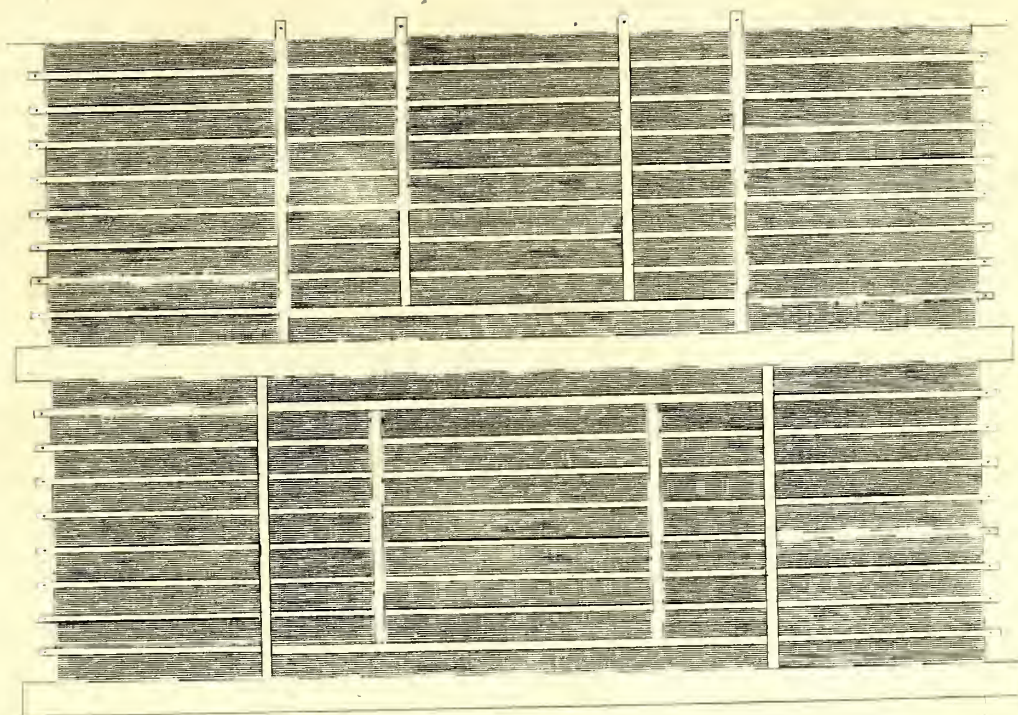




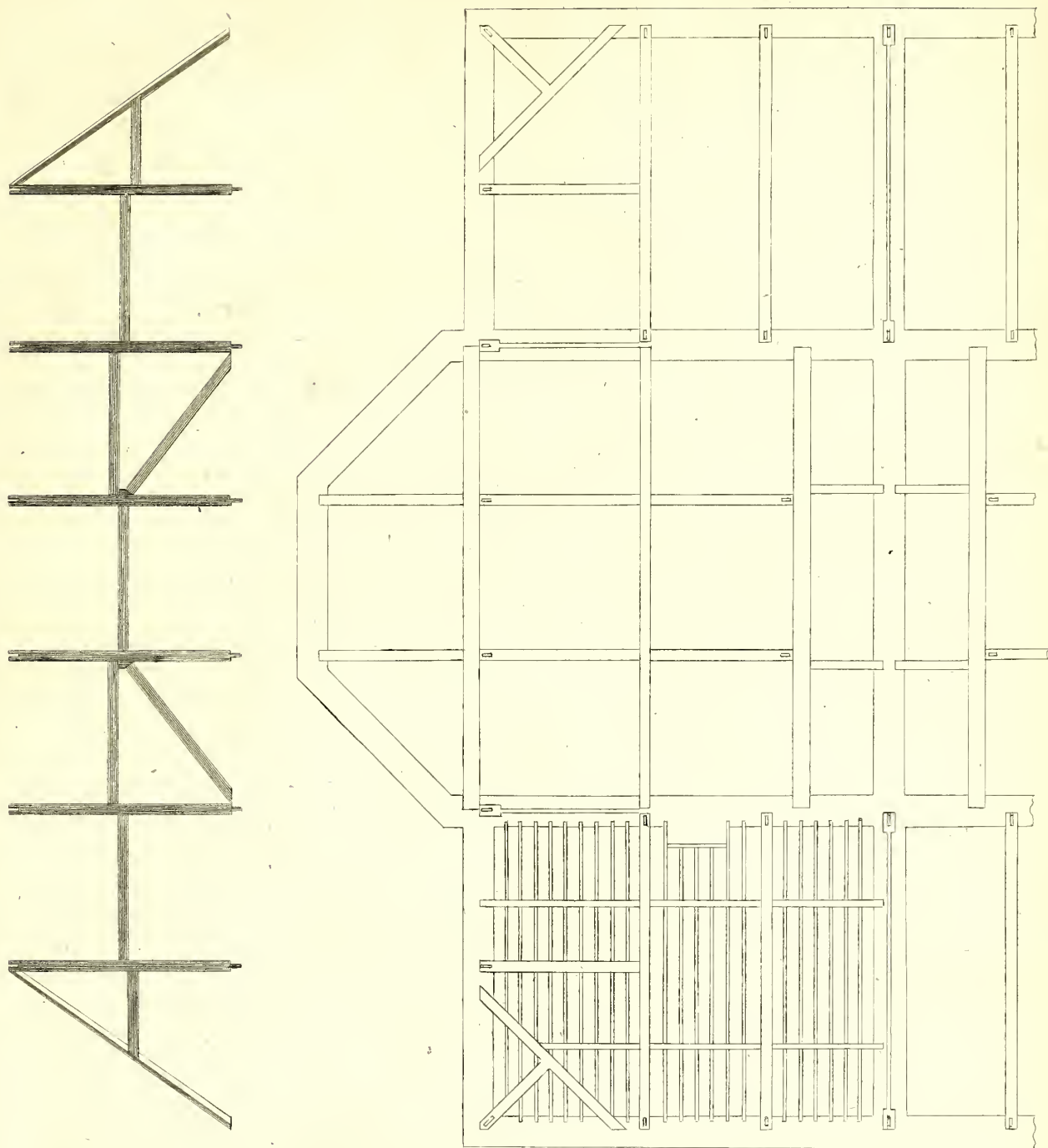
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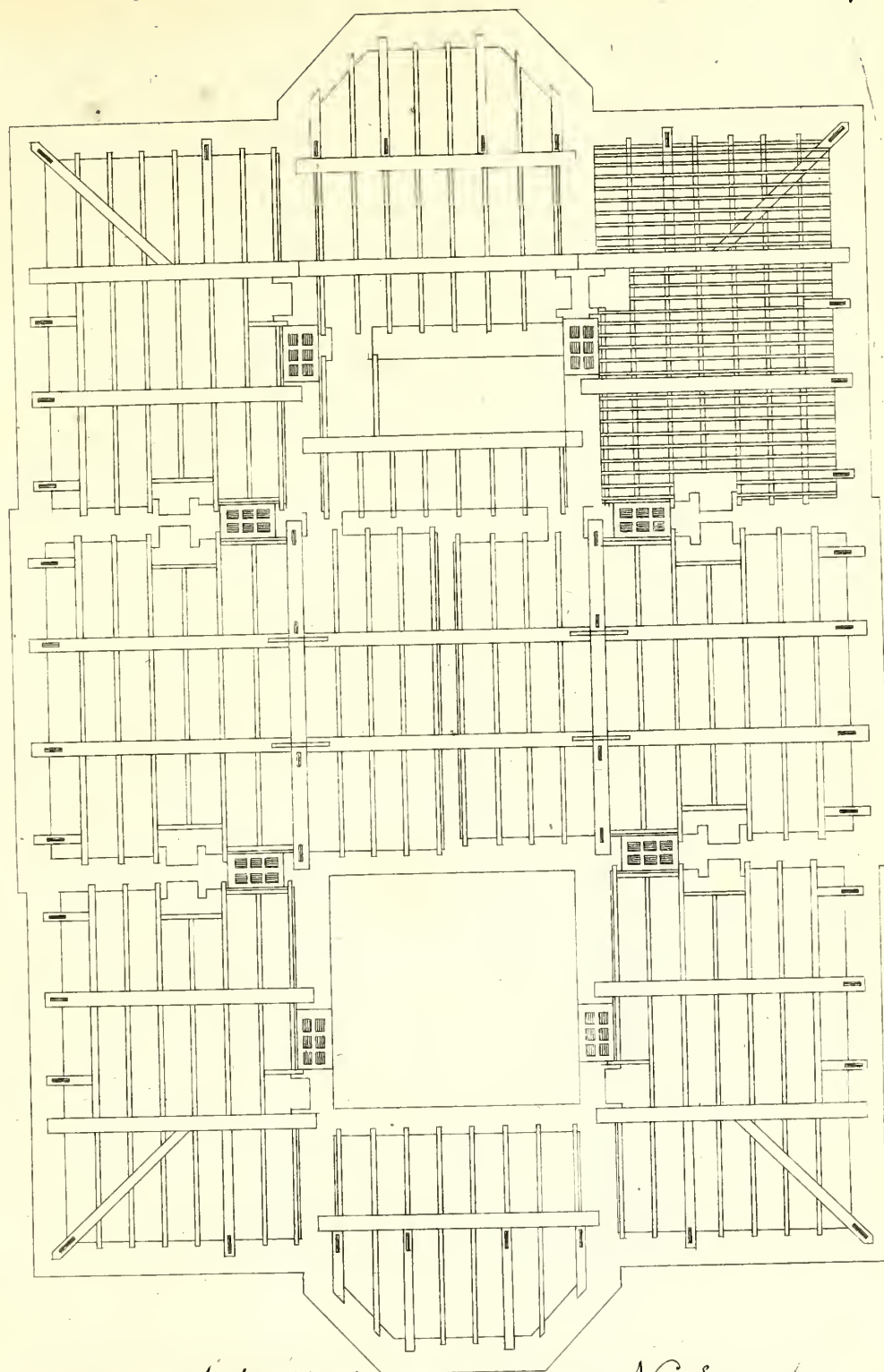
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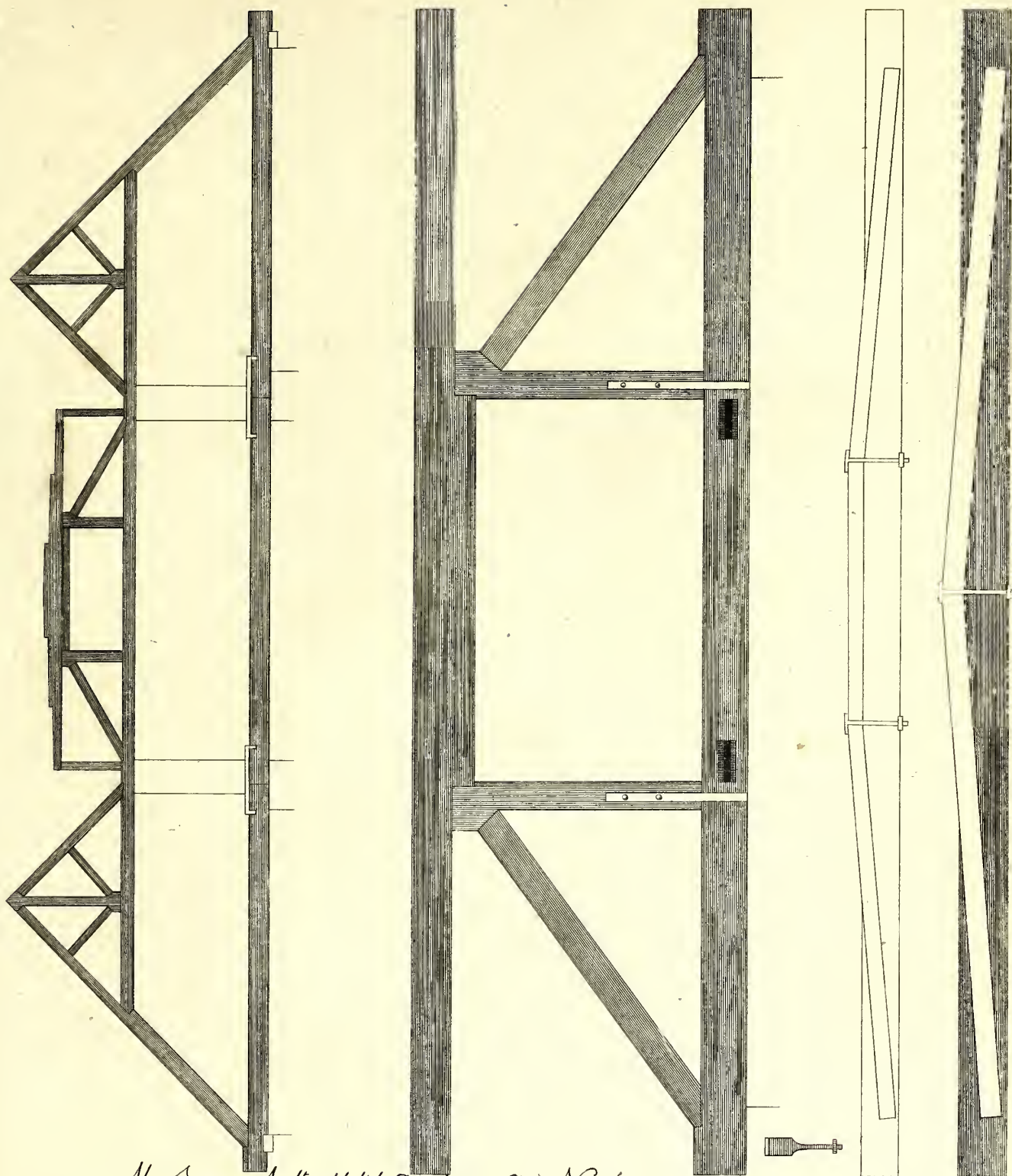
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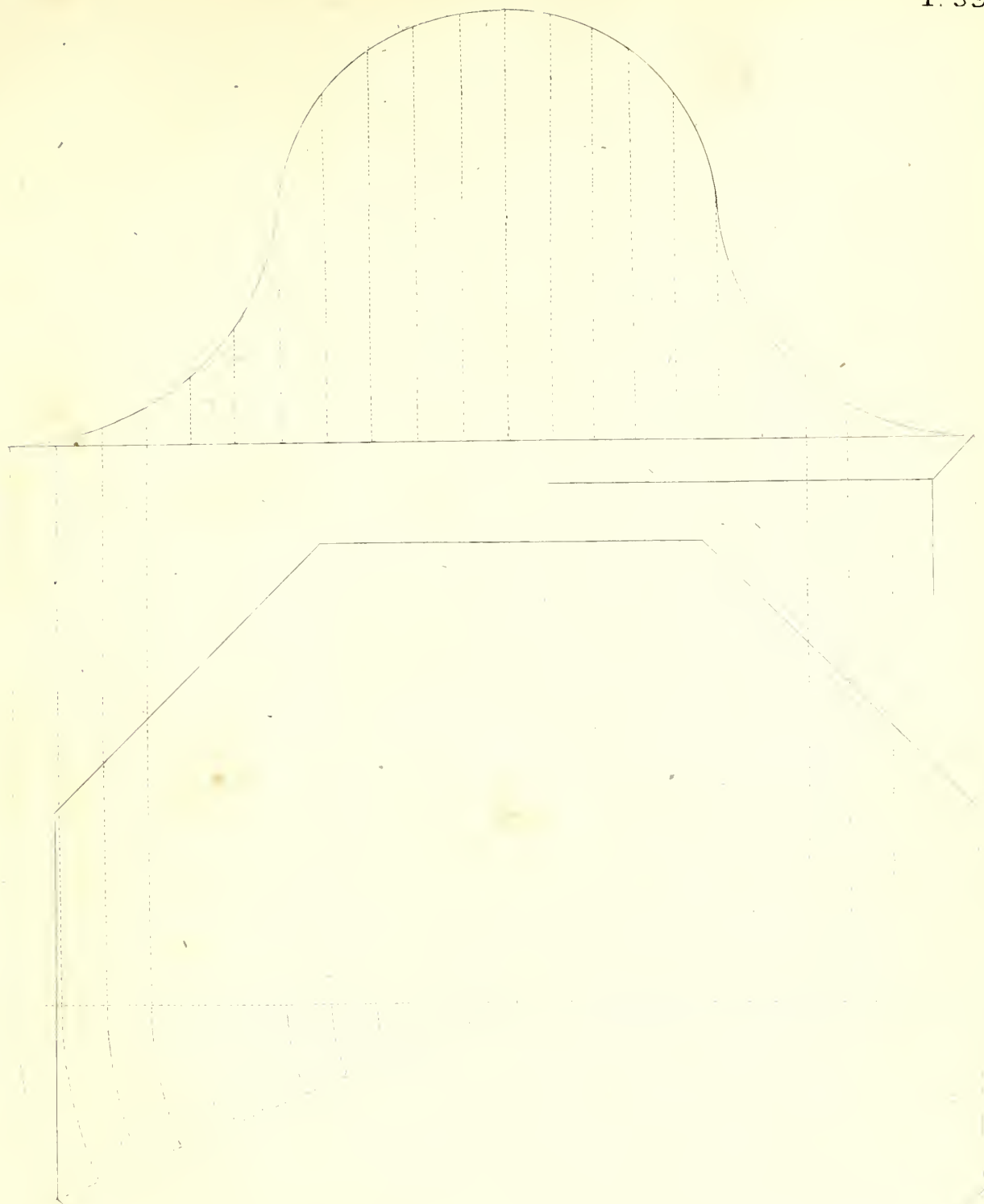
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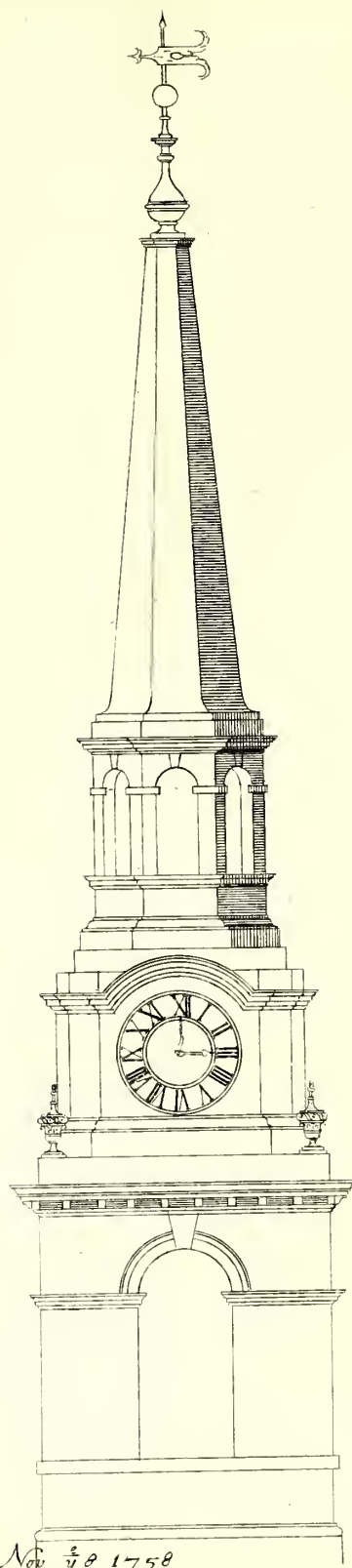
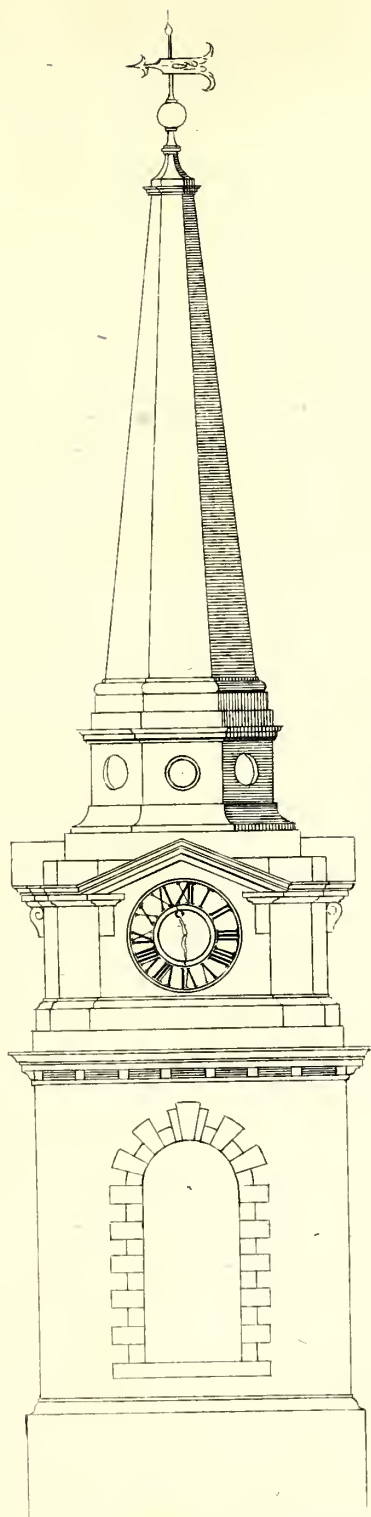
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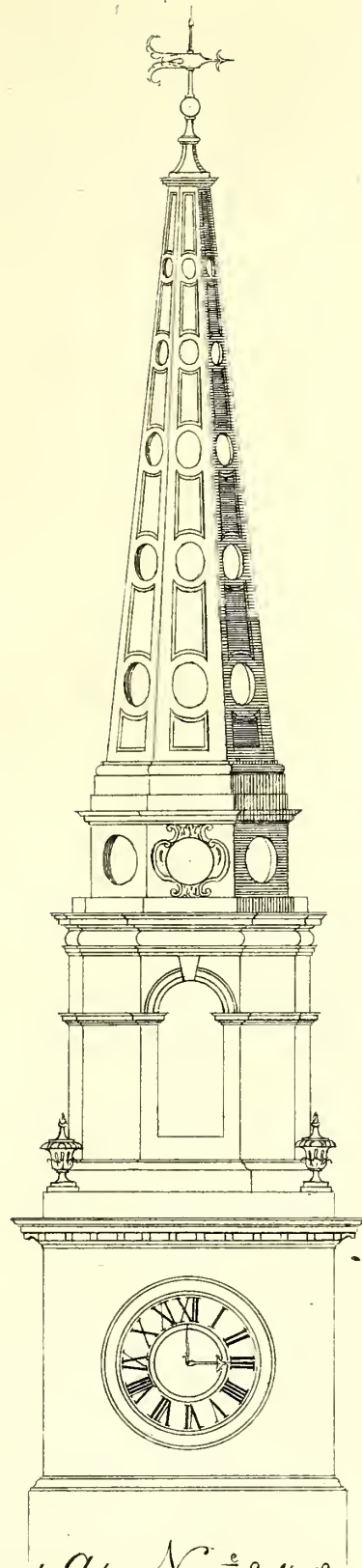
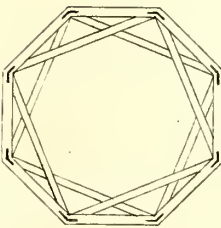
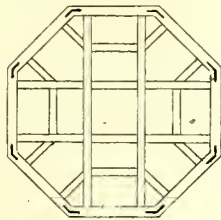
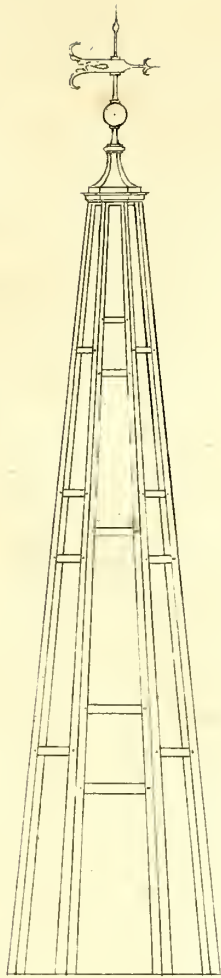


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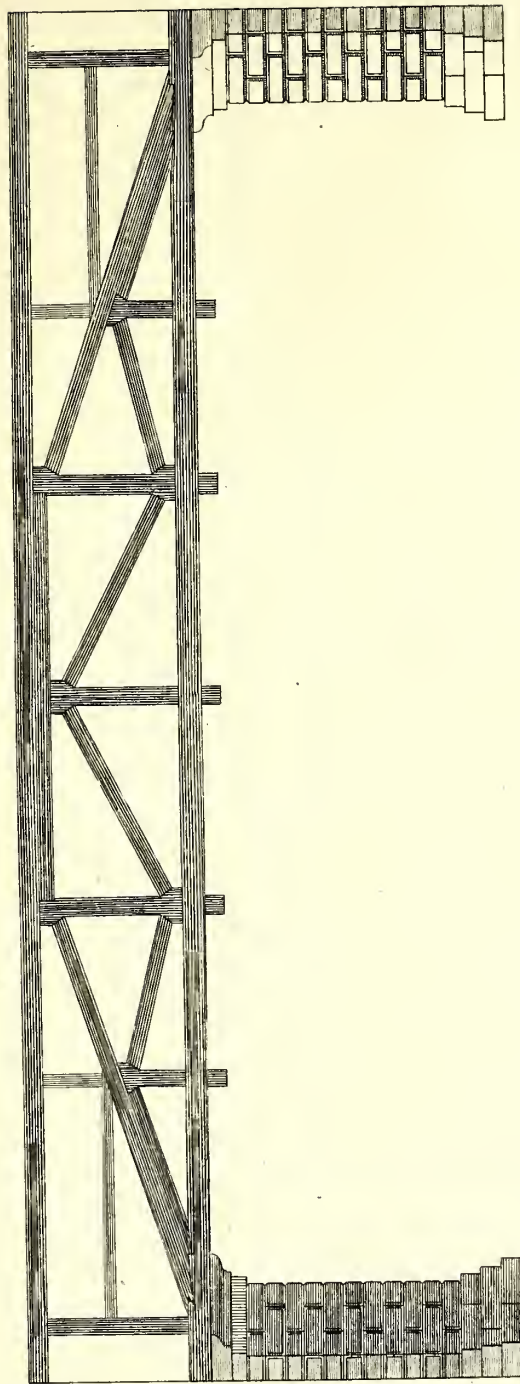


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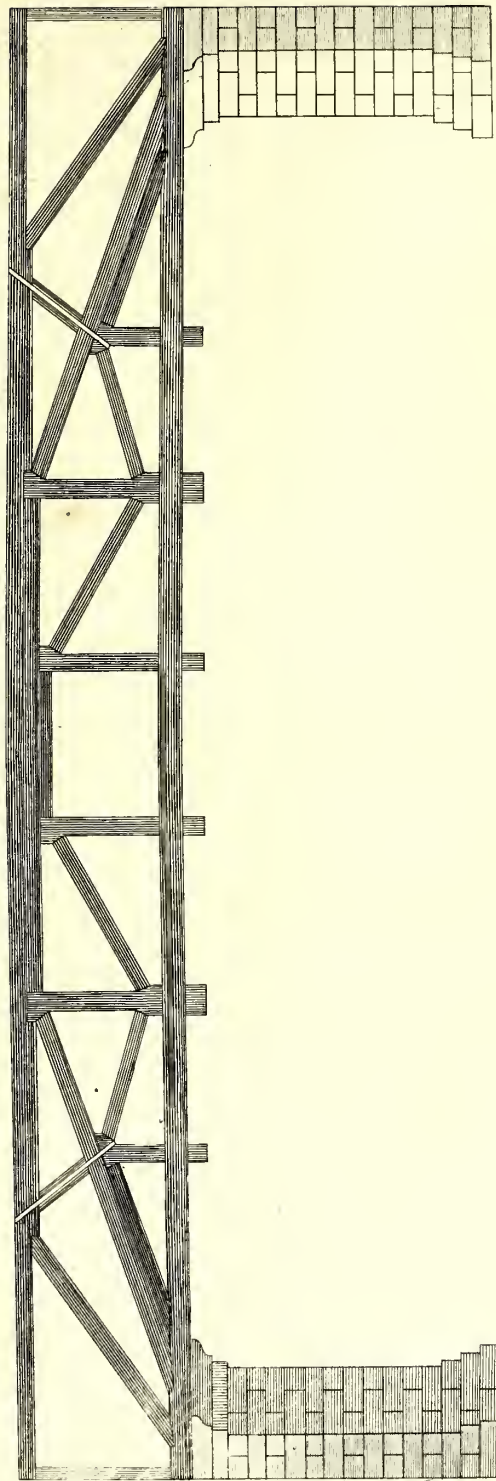




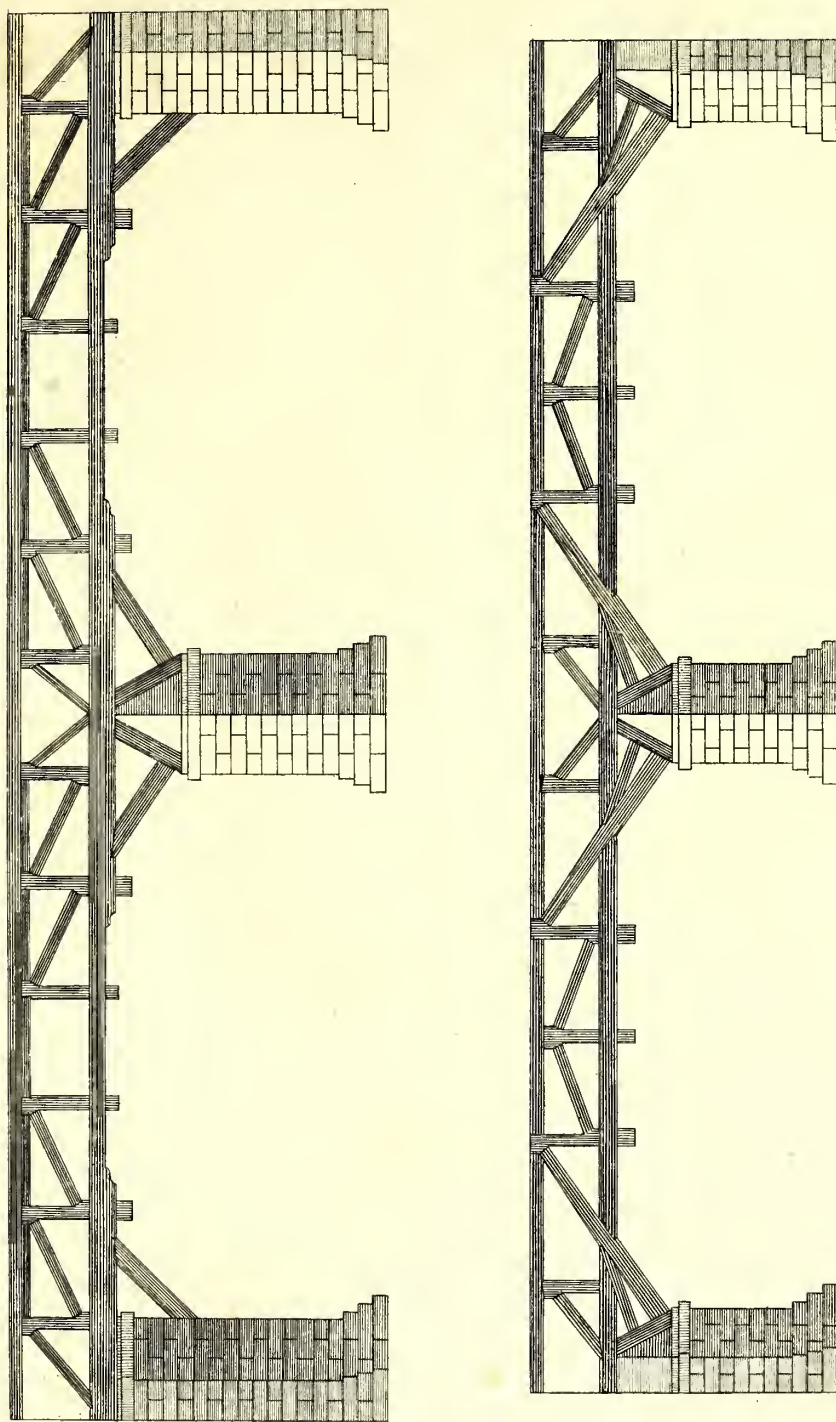
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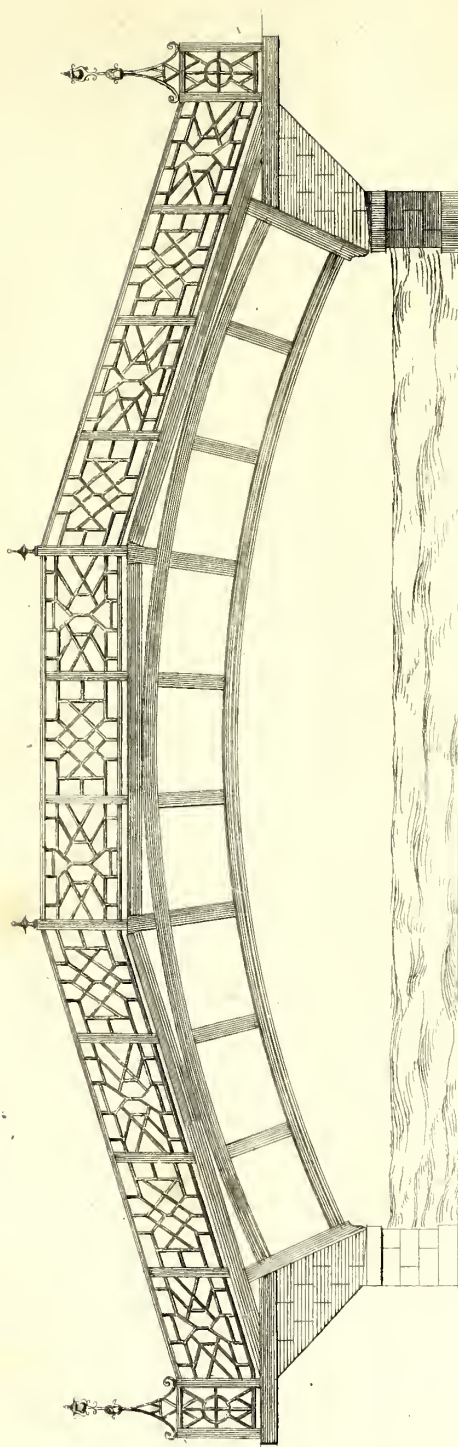
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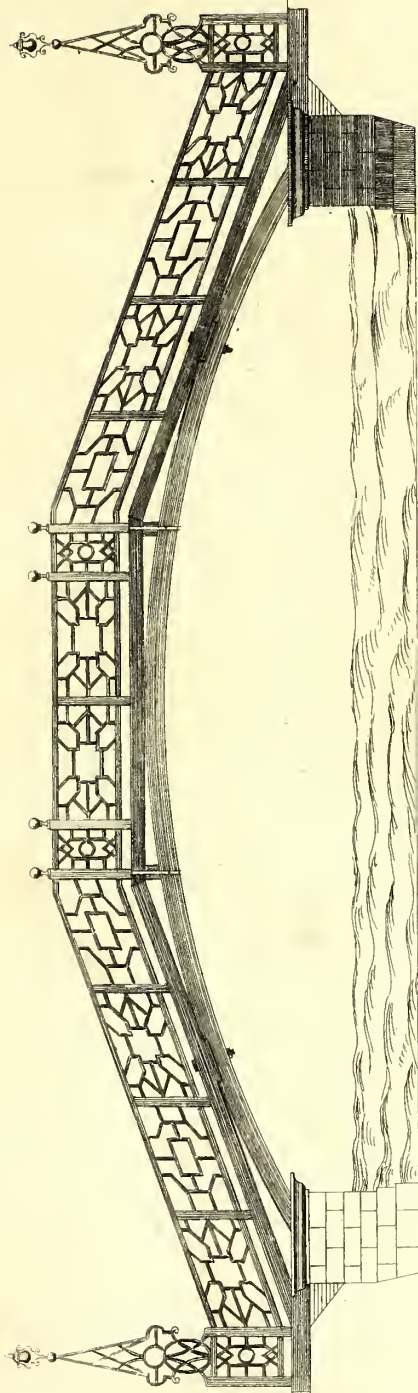
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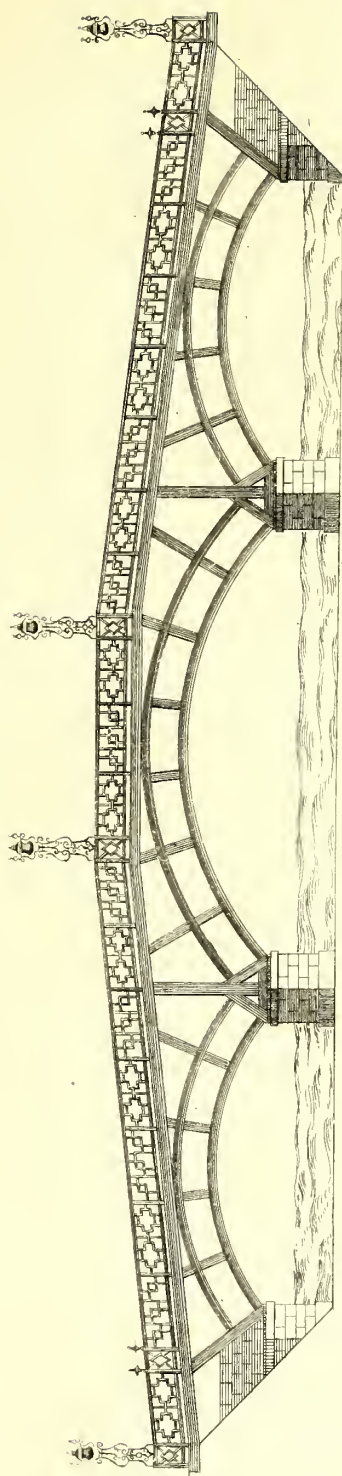
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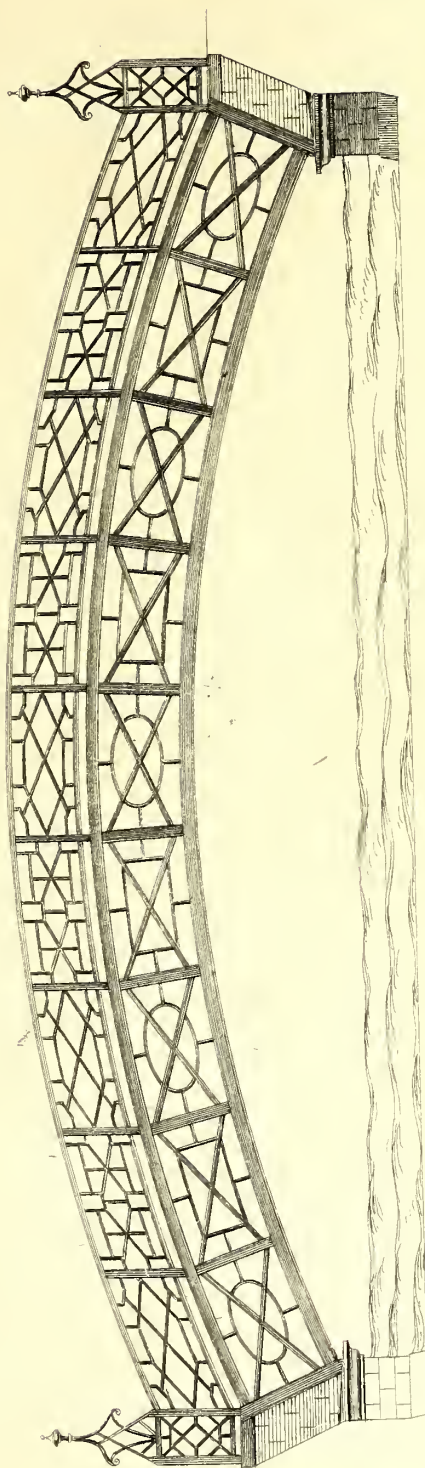
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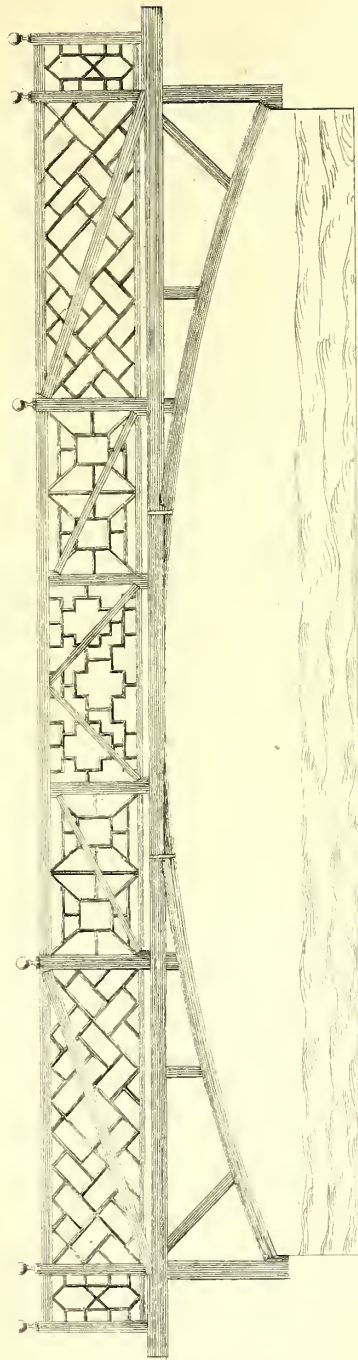
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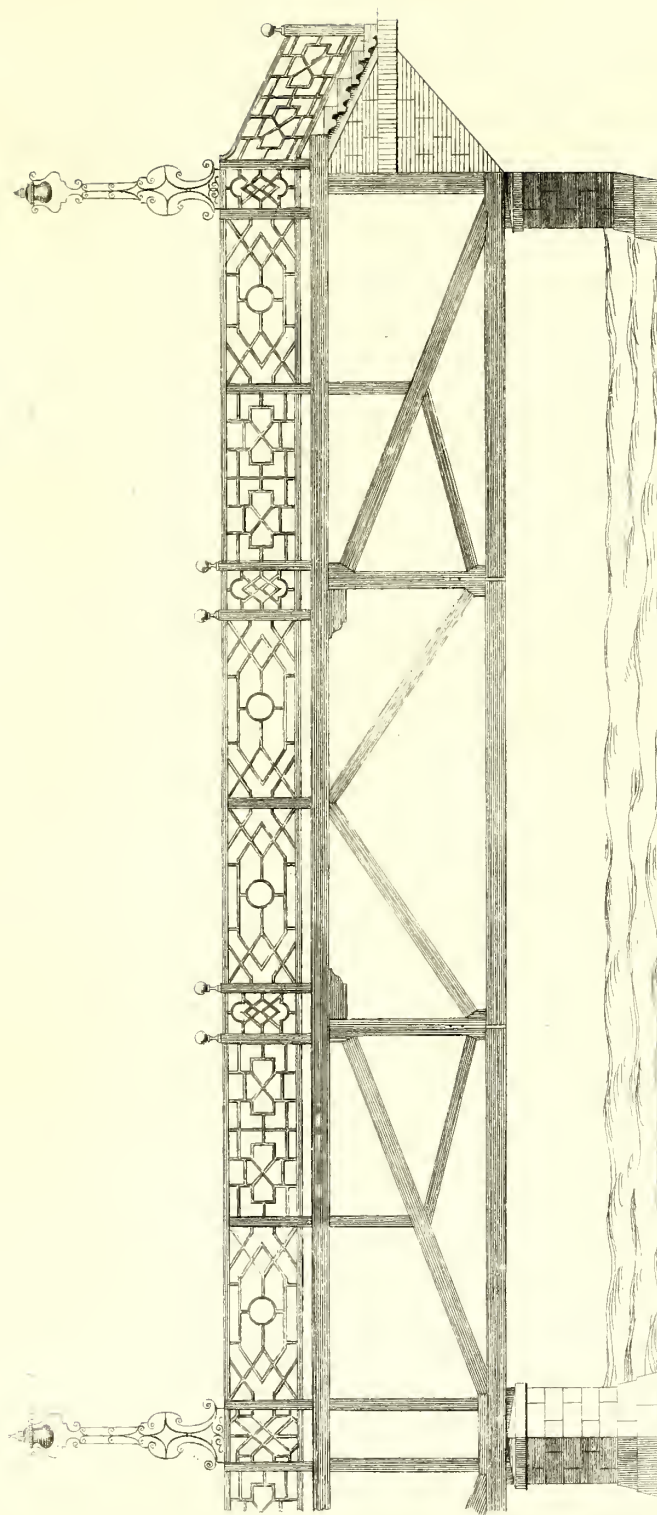
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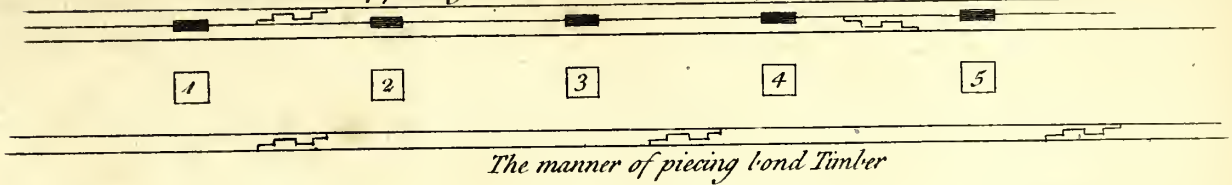


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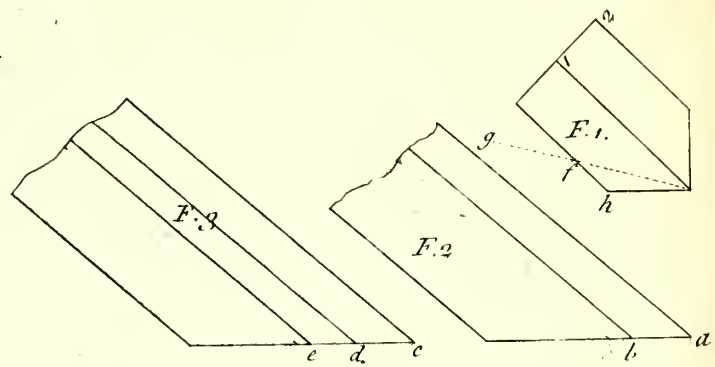
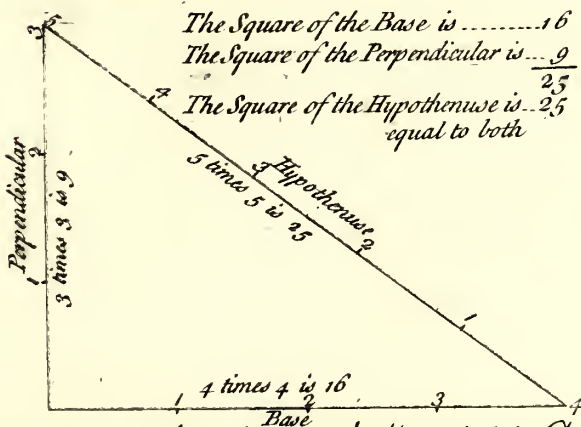
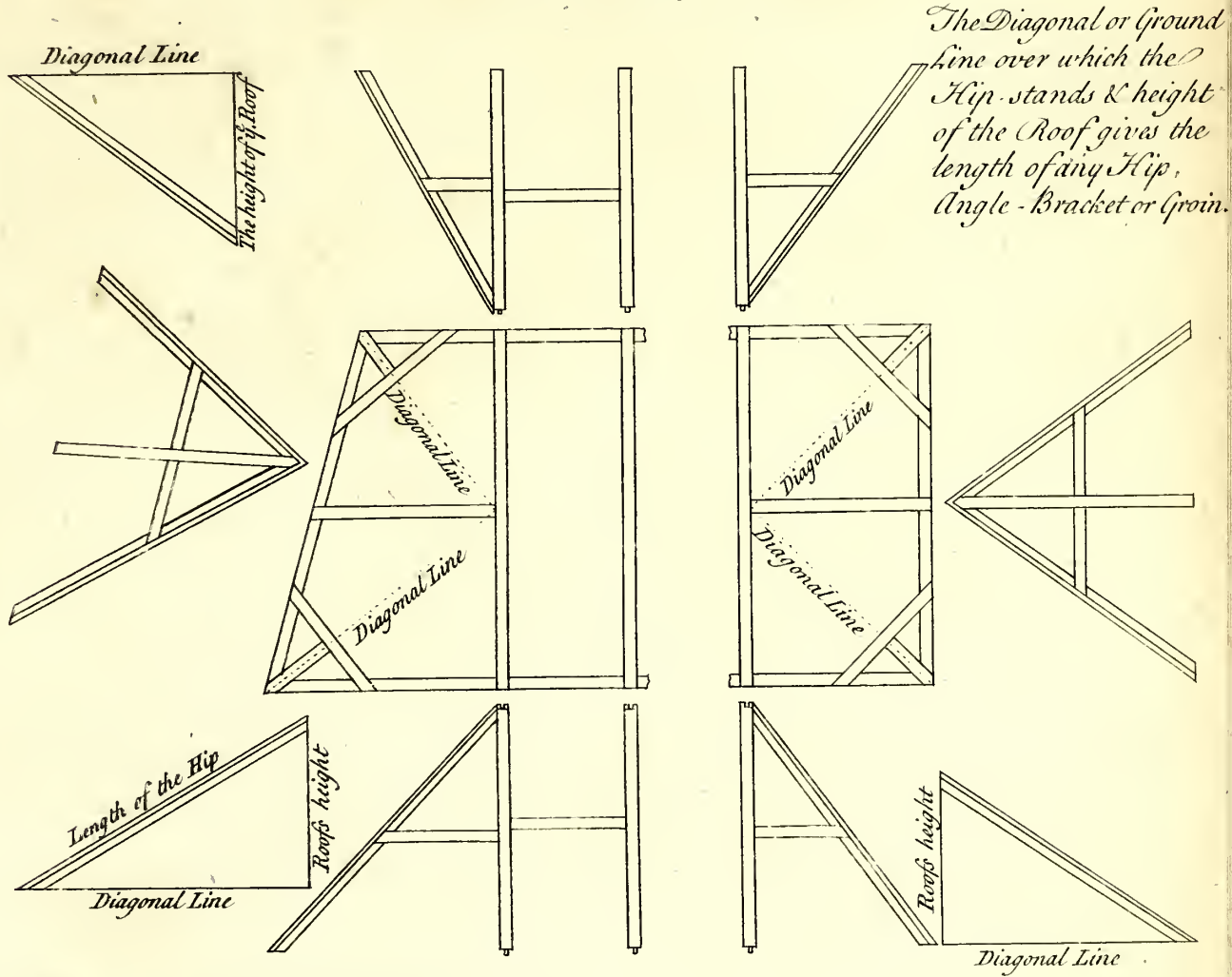


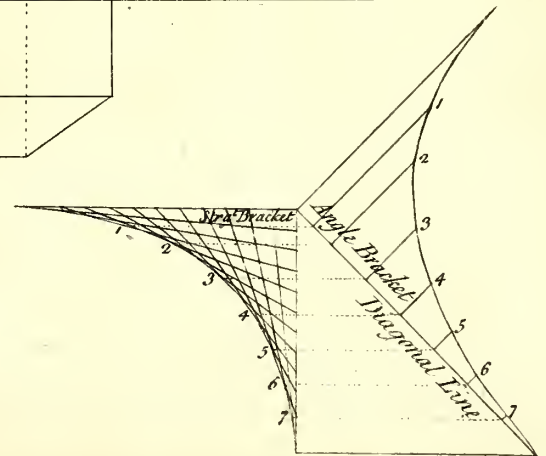
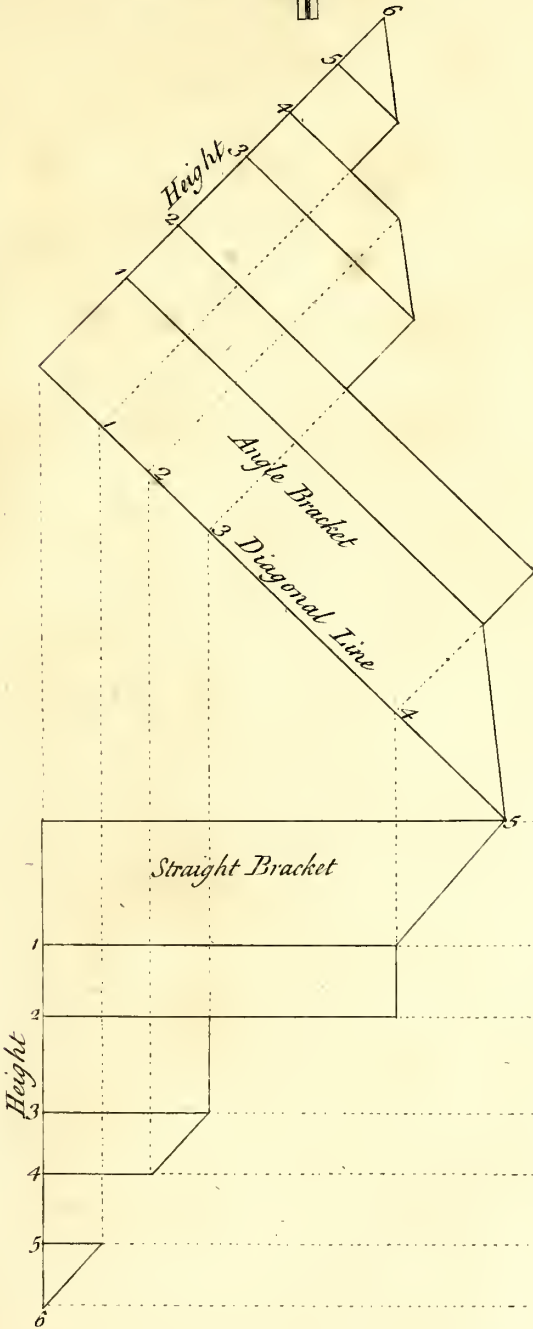
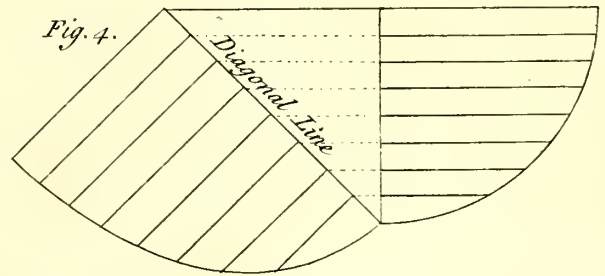
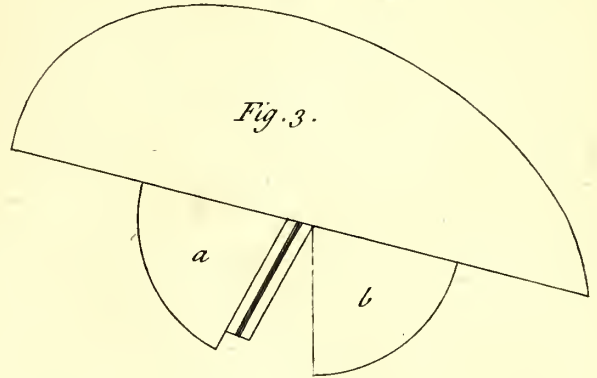
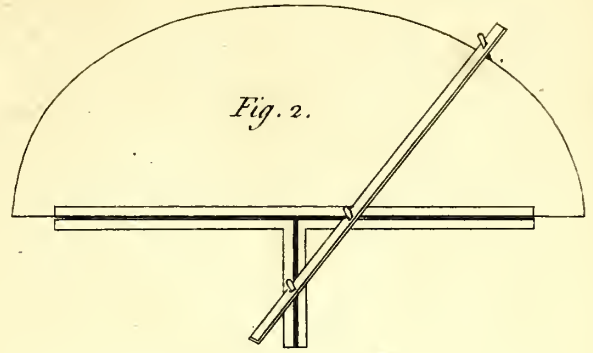
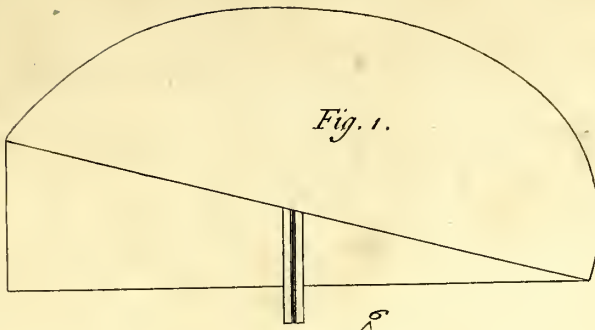
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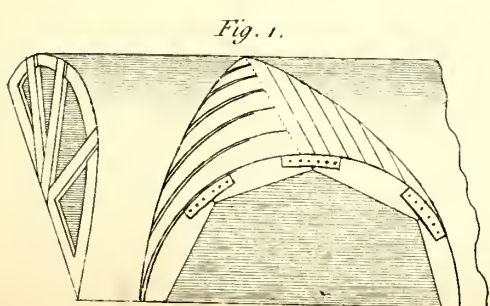
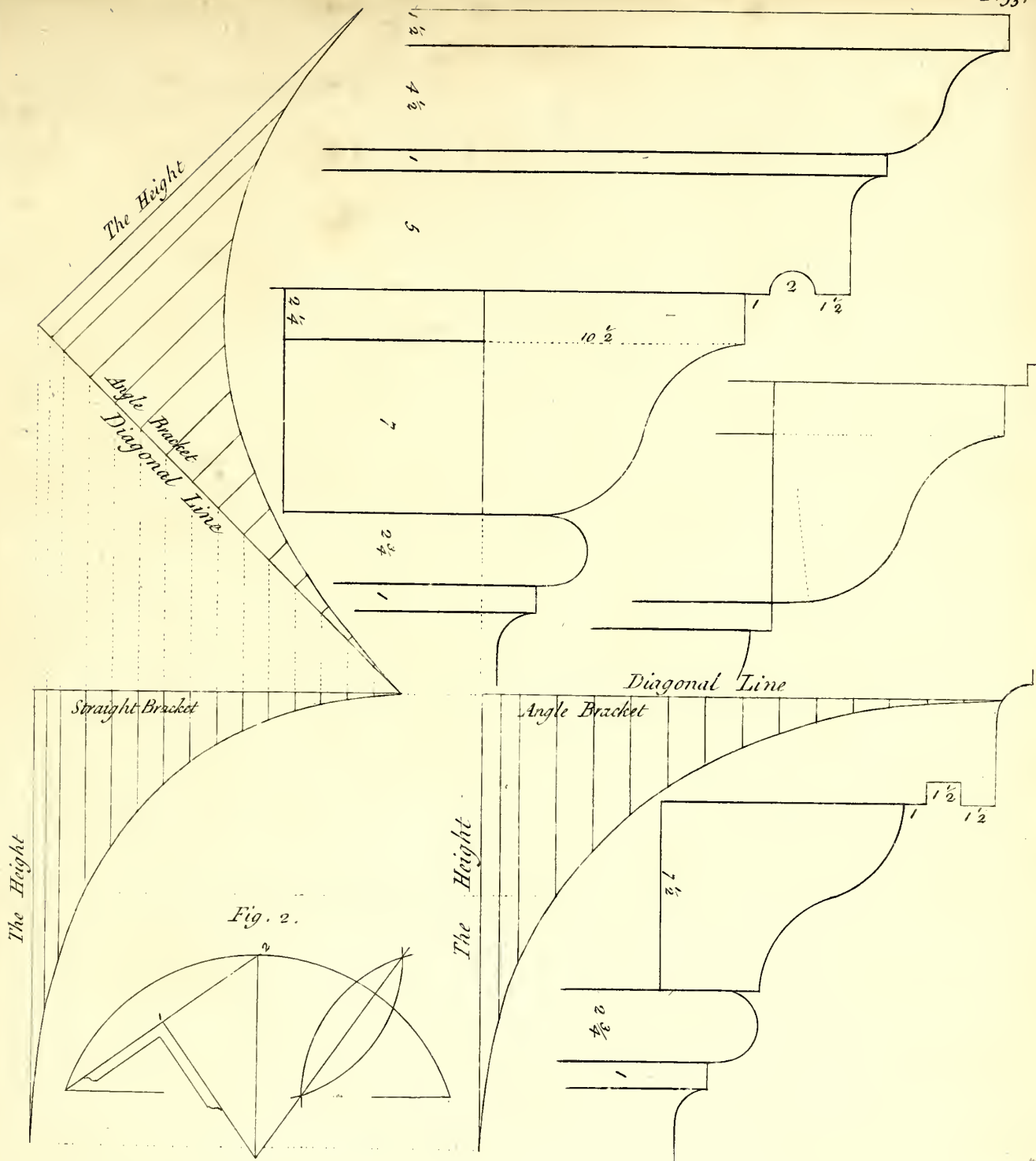




The manner of piecing Bond Timber







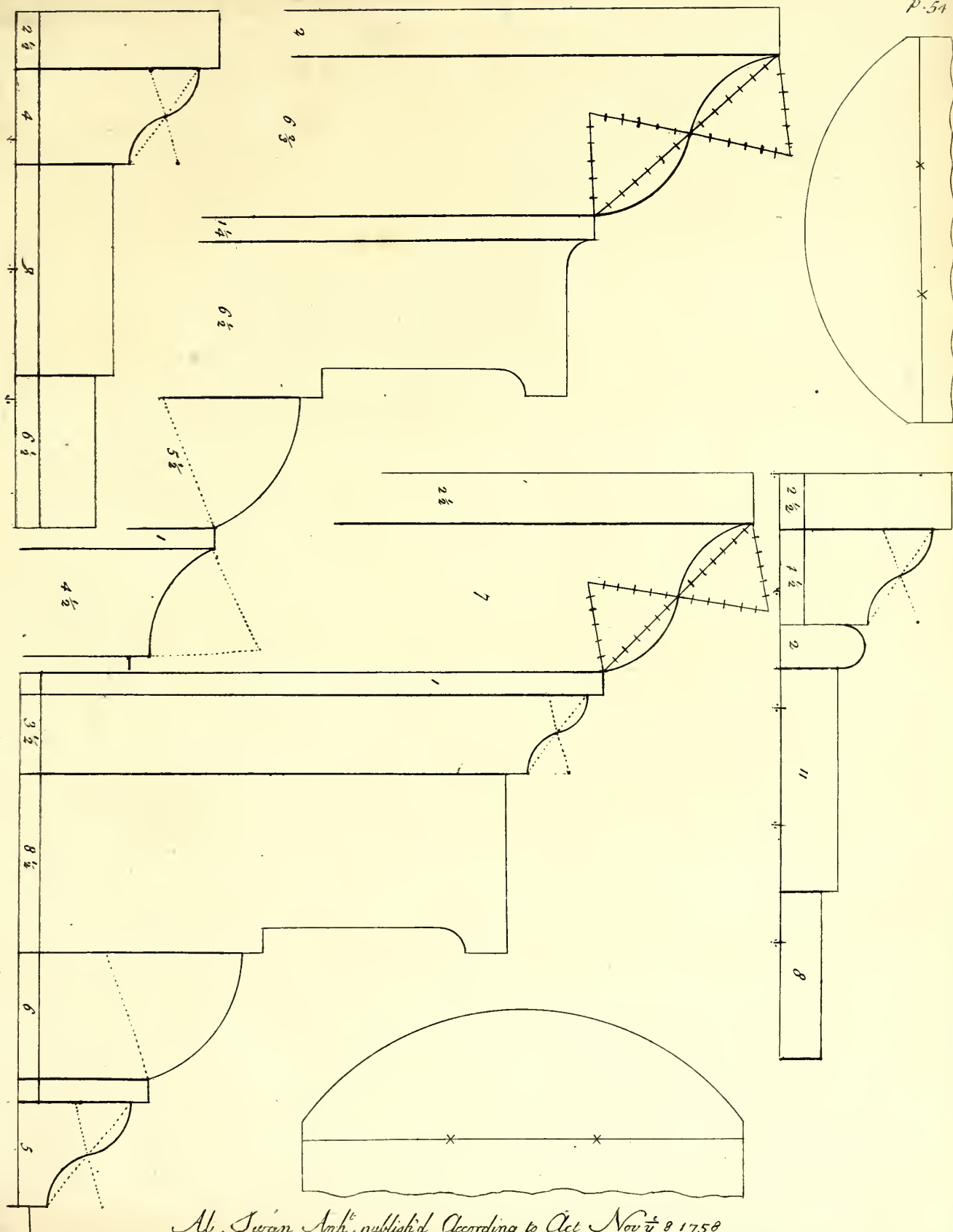
Chord 48

To find the Centre Square the half Chord . 24

	24
	96
	48

Prod.^t divide by the height of the Arch . 4

576	144
product	4
Whole diameter of the Circle	148
Half	74



At. Swan Arch^t. published According to Act Nov^r 8 1750

